Ontario

Ontario Geological Survey
Open File Report 6153

Report of Activities, 2004 Resident Geologist Program

Regional Land Use Geologist Report: Northwestern, Northeastern and Southern Ontario Regions

2005

105-04896/

Ontario

ONTARIO GEOLOGICAL SURVEY

Open File Report 6153

Report of Activities, 2004
Resident Geologist Program

Regional Land Use Geologist Report:
Northwestern, Northeastern and Southern Ontario Regions

by

R.L. Debicki, A.P. Drost, A.F. Lichtblau, R.J. Fraser and D.J. Rowell

2005

Parts of this publication may be quoted if credit is given. It is recommended that reference to this publication be made in the following form:

Debicki, R.L., Drost, A.P., Lichtblau, A.F., Fraser, R.J. and Rowell, D.J. 2005. Report of Activities 2004, Resident Geologist Program, Regional Land Use Geologist Report: Northwestern, Northeastern and Southern Ontario Regions; Ontario Geological Survey, Open File Report 6153, 37p.

© Queen's Printer for Ontario, 2005

© Queen's Printer for Ontario, 2005.

Open File Reports of the Ontario Geological Survey are available for viewing at the Mines Library in Sudbury, at the Mines and Minerals Information Centre in Toronto, and at the regional Mines and Minerals office whose district includes the area covered by the report (see below).

Copies can be purchased at Publication Sales and the office whose district includes the area covered by the report. Although a particular report may not be in stock at locations other than the Publication Sales office in Sudbury, they can generally be obtained within 3 working days. All telephone, fax, mail and e-mail orders should be directed to the Publication Sales office in Sudbury. Use of VISA or MasterCard ensures the fastest possible service. Cheques or money orders should be made payable to the *Minister of Finance.*

Mines and Minerals Information Centre (MMIC)
Macdonald Block, Room M2-17
900 Bay St.
Toronto, Ontario M7A 1C3
Tel: (416) 314-3800

Mines Library
933 Ramsey Lake Road, Level A3
Sudbury, Ontario P3E 6B5
Tel: (705) 670-5615

Publication Sales
933 Ramsey Lake Rd., Level A3
Sudbury, Ontario P3E 6B5
Tel: (705) 670-5691(local)
1-888-415-9845(toll-free)
Fax: (705) 670-5770
E-mail: pubsales@ndm.gov.on.ca

Regional Mines and Minerals Offices:

Kenora - Suite 104, 810 Robertson St., Kenora P9N 4J2

Kirkland Lake - 10 Government Rd. E., Kirkland Lake P2N 1A8

Red Lake - Box 324, Ontario Government Building, Red Lake P0V 2M0

Sault Ste. Marie - 70 Foster Dr., Ste. 200, Sault Ste. Marie P6A 6V8

Southern Ontario - P.O. Bag Service 43, Old Troy Rd., Tweed K0K 3J0

Sudbury - Level B3, 933 Ramsey Lake Rd., Sudbury P3E 6B5

Thunder Bay - Suite B002, 435 James St. S., Thunder Bay P7E 6S7

Timmins - Ontario Government Complex, P.O. Bag 3060, Hwy. 101 East, South Porcupine P0N 1H0

Toronto - MMIC, Macdonald Block, Room M2-17, 900 Bay St., Toronto M7A 1C3

This report has not received a technical edit. Discrepancies may occur for which the Ontario Ministry of Northern Development and Mines does not assume any liability. Source references are included in the report and users are urged to verify critical information. Recommendations and statements of opinions expressed are those of the author or authors and are not to be construed as statements of government policy.

If you wish to reproduce any of the text, tables or illustrations in this report, please write for permission to the Team Leader, Publication Services, Ministry of Northern Development and Mines, 933 Ramsey Lake Road, Level B4, Sudbury, Ontario P3E 6B5.

Cette publication est disponible en anglais seulement.

Parts of this report may be quoted if credit is given. It is recommended that reference be made in the following form:

Debicki, R.L., Drost, A.P., Litchtblau, A.F., Fraser, R.J. and Rowell, D.J. 2004. Report of Activities 2004, Resident Geologist Program, Regional Land Use Geologist Report: Northwestern, Northeastern and Southern Ontario Regions; Ontario Geological Survey, Open File Report 6153, 37p.

Mines and Minerals Division Regional and District Offices

CITY	ADDRESS	OFFICE(S)	TELEPHONE	FAX
Kenora	Suite 104, 810 Robertson St., Kenora P9N 4J2	○ ■	(807) 468-2813	(807) 468-2930
Red Lake	Box 324, Ontario Government Building 227 Howey Street, Red Lake P0V 2M0	● ■ ▲	(807) 727-3272 (807) 727-3284	(807) 727-3553 (807) 727-3553
Thunder Bay - North	Suite B002, 435 James St. S., Thunder Bay P7E 6S7	● ■ ▼ ▲	(807) 475-1331 (807) 475-1311	(807) 475-1112 (807) 475-1124
Thunder Bay - South	Suite B002, 435 James St. S., Thunder Bay P7E 6S7	● ■ ▼ ▲	(807) 475-1331 (807) 475-1311	(807) 475-1112 (807) 475-1124
Sault Ste. Marie	Suite 200, 70 Foster Dr., Sault Ste. Marie P6A 6V8	○ ■	(705) 945-6931	(705) 945-6935
Timmins	Ontario Government Bldg., P.O. Bag 3060, Hwy 101 East, South Porcupine P0N 1H0	● ■ ▼ ▲	(705) 235-1615 (705) 235-1600	(705) 235-1620 (705) 235-1610
Kirkland Lake	10 Government Rd. E., Kirkland Lake P2N 1A2	● ■ ▲	(705) 568-4516 (705) 568-4521	(705) 568-4515 (705) 568-4515
Sudbury	Willet Green Miller Centre, Level B3, 933 Ramsey Lake Rd., Sudbury P3E 6B5	○ ✱ ▼	(705) 670-5735 (705) 670-5737	(705) 670-5681 (705) 670-5807
Tweed	P.O. Bag Service 43, 126 Old Troy Rd., Tweed K0K 3J0	● ■	(613) 478-3161	(613) 478-2873
Toronto	Mines and Minerals Information Centre, Room M2-17, MacDonald Block, 900 Bay St., M7A 1C3	○	(416) 314-3800	(416) 314-3797

Ontario

Ontario Geological Survey
Resident Geologist Program

Regional Land Use Geologists—2004

by

R.L. Debicki, A.P. Drost, A.F. Lichtblau, R.J. Fraser and D.J. Rowell

2005

CONTENTS

Regional Land Use Geologists—2004

INTRODUCTION 1
THE LAND USE GROUP 2
CROWN LAND USE PLANNING 3
Ontario's Living Legacy 3
Site Regulation 3
Disentanglement 4
Exclusions of Time 7
Signature Sites 8
Algoma Headwaters Signature Site 9
Great Lakes Heritage Coast Signature Site 9
Kawartha Highlands Signature Site 9
Killarney Signature Site 9
Lake Nipigon Signature Site 10
Nagagamisis Central Plateau Complex Signature Site 10
Spanish River Waterway Signature Site 10
St. Raphael Signature Site 10
Woodland Caribou Signature Site 11
Enhanced Management Areas 11
Mineral Resource Assessments 11
Room to Grow 12
Room to Grow Initiatives 12
Other Protected Areas 13
Forest Management Plans 13
Northwest Region Forest Management Plans 18
Northeast Region Forest Management Plans 20
Southern Region Forest Management Plans 22
Northern Boreal Initiative 23
Northern Boreal Initiative Projects 24
Pikangikum 24
Mishkeegogamang and Eabametoong 24
Moose Cree 24
Other Crown Land Planning Initiatives 25
Crown Land Use Atlas 25
Review of Protected Areas Legislation 25
Ontario Biodiversity Strategy 26
Renewable Energy Initiatives 27
Temagami Integrated Management Plan 27
Review of Withdrawal Orders 27
Crown Land Camping 28
All-Terrain Vehicle and Recreational Trails 28
Local Citizens' Committees 28
MUNICIPAL PLANNING 28
Municipal Planning Initiatives 29
Planning-Related Training and Events 30
Provincial Policy Statement 30
Other Planning Initiatives 31
Greenbelt Act 32
Growth Management 32
Source Water Protection 32

FIRST NATIONS 33
Reserve Lands 33
New Policies for the Far North 34
Mineral Exploration on Traditional Lands 35
Consultation Protocol Development 35
Educational Initiatives 36
CONFERENCES AND WORKSHOPS 36
OTHER 36

Tables

Table 1. Regulation status of Ontario's Living Legacy sites province wide 4
Table 2. Regulation status of Ontario's Living Legacy sites in the 3 planning areas. 4
Table 3. Sites subject to disentanglement discussions. 5
Table 4. Signature Sites and land use group contacts 8
Table 5. Categories of enhanced management areas 11
Table 6. Number of forest management units of various size classes in the province 15
Table 7. Change in the number of forest management units since 1995 15
Table 8. List of forest management units in Ontario (2004–2005). 16
Table 9. List of forest management units in the northwest Regional Land Use Geologist's region (2004–2005). 19
Table 10. List of 2006 northwest forest management plans and their Sustainable Forest Licence holders 20
Table 11. List of forest management units in the northeast Regional Land Use Geologist's region (2005–2006) 20
Table 12. List of 2006 northeast forest management plans and their Sustainable Forest Licence holders 21
Table 13. List of forest management units in the southern Regional Land Use Geologist's region (2005–2006) 22
Table 14. List of 2006 southern forest management plans and their Sustainable Forest Licence holders 23
Table 15. Southern region planning documents reviewed during 2004 30

Figures

Figure 1. Locations of forest management units in Ontario, April 1 2004 14

REGIONAL LAND USE GEOLOGISTS—2004

R.L. Debicki[1], A.P. Drost[2], R.J. Fraser[3], A.F. Licthblau[4], and D.J. Rowell[5]

[1] Land Use Policy and Planning Coordinator, Resident Geologist Program, Ontario Geological Survey

[2] Regional Land Use Geologist—Northwest, Resident Geologist Program, Ontario Geological Survey

[3] Regional Land Use Geologist—Northeast, Resident Geologist Program, Ontario Geological Survey

[4] Regional Land Use Geologist (Acting)—Northwest, Resident Geologist Program, Ontario Geological Survey

[5] Regional Land Use Geologist—Southern, Resident Geologist Program, Ontario Geological Survey

INTRODUCTION

The land use group was established within the Resident Geologist Program in 2000 to respond to clients in government, agencies, nongovernmental organizations and the mineral sector. The services provided by the Regional Land Use Geologists relate to land use planning and access matters that are of interest to, or may directly affect, prospectors and developers and their activities. Many of the services require knowledge and expertise that are outside the traditional knowledge and experience of practicing geoscientists. For example, land use planning in Ontario can involve a number of different provincial ministries, and more than 12 provincial legislative acts with accompanying regulations, guidelines and policies. Some relate to Crown land, while others relate to private land.

Group members have geoscience and mineral sector expertise, combined with a broad understanding of land use legislation, regulations and issues. They work closely with the Resident Geologist Program's Regional Resident Geologists and District Geologists, other representatives of the Ministry of Northern Development and Mines and staff members from other ministries to optimize Ontario's land base for sustainable, safe and environmentally responsible mineral resource development. Their activities include:

- providing information to Ministry of Natural Resources personnel about the geology, mineral potential and mining land holdings of areas of interest and the possible effects on the mineral sector of initiatives such as the Northern Boreal Initiative;
- working with Ministry of Natural Resources, Ministry of Municipal Affairs and Housing, municipal governments and planning consultants to ensure that the sale of Crown land does not preclude future exploration and development on existing mining lands or in areas of high mineral potential;
- working with Ministry of Natural Resources, the mineral sector, and the forest industry to ensure that information about mineral values and mining lands is available during the forest management planning process, and that mineral sector representatives are aware of opportunities to participate in and comment on the forest management planning process;
- working with Ministry of Natural Resources, the Ontario Prospectors Association and the Partnership for Public Lands to ensure that information regarding mining lands in, and the mineral potential of, forest reserves is available as needed in support of the "disentanglement" process;
- evaluating and commenting on proposed new policies and legislation including the *Greenbelt Act* and the Provincial Policy Statement revision (issued under Section 3 of the *Planning Act*) to ensure that mineral sector interests are addressed;
- working with Ministry of Municipal Affairs and Housing, municipal planners, and planning consultants to ensure that municipal Official Plans, Official Plan Amendments, and consents (lot severances) have regard for mineral resources, mining operations, possible related hazards, and mining lands;
- helping representatives of First Nations understand and participate in the mineral exploration and development process, while at the same time making the mineral sector aware of First Nation communities' concerns about activities on their traditional lands along with ways of mitigating or accommodating those concerns;

- advocating and coordinating the use of the Provincially Significant Mineral Potential (PSMP) mineral resource assessment methodology in all land use planning initiatives; and
- working to make the public at large, along with members of various interest groups, more aware of the interests and importance of the mineral sector and its activities and entitlements in Ontario.

The objective of the group is to effectively represent mineral-related values in the context of competing interests for land use and optimise the land base available for mineral exploration and development, while helping mineral sector representatives be aware of the implications of legislation and regulations other than the *Mining Act* on their activities. The competing interests for land use vary from place to place across the province, but all have the potential to restrict the availability of land, access to it, and the activities on it.

Contact information for the Regional Land Use Geologists, and other representatives of the Resident Geologist Program is available from:

http://www.mndm.gov.on.ca/mndm/mines/resgeol/contact_e.asp

Please contact the Land Use Policy and Planning Coordinator or the Regional Land Use Geologist for your area of interest for further information about matters described in this annual report.

THE LAND USE GROUP

The land use group consists of 4 staff members: the Land Use Policy and Planning Coordinator (located in Sudbury); the northwest Regional Land Use Geologist (located in Thunder Bay); the northeast Regional Land Use Geologist (located in Timmins); and the southern Regional Land Use Geologist (located in Sudbury). The work of each of the Regional Land Use Geologists relates to land use activities and initiatives in their geographic areas, and encompasses the full range of matters outlined in the introduction.

The areas for which the various Regional Land Use Geologists are responsible are shown in the index map on page v. The northeast and southern Regional Land Use Geologists normally share some responsibilities for the area along the north shore of Lake Huron, however, for logistical reasons. The Land Use Policy and Planning Coordinator is responsible for the overall coordination of the group, as well as initiatives that are provincial, rather than regional, in scope.

There were 2 changes of staffing in the group in 2004.

In September 2004, Robert Fraser, northeast Regional Land Use Geologist, left his position for new challenges within the mineral sector in South America. Due to staffing constraints currently in place within the province's public service ministries, his position has not been filled. As an interim measure, the southern Regional Land Use Geologist and Land Use Policy and Planning Coordinator have each assumed a share of the duties of this position, as have other staff members of the Resident Geologist Program in the Timmins Regional office.

In October 2004, Abraham Drost, northwest Regional Land Use Geologist, left his position for new challenges within the mineral sector in Canada. His departure meant that 2 of 3 Regional Land Use Geologist positions were vacant. Since the distance between the northwest region and the remaining land use group staff members made responding to client needs in northwestern Ontario difficult, Andreas Lichtblau, Regional Resident Geologist in Red Lake, was appointed acting northwest Regional Land Use Geologist in October. At the same time the search for a full-time replacement for Mr. Drost was initiated. Peter Hinz, formerly District Geologist with the Resident Geologist in Kenora was the successful candidate in the competition for the position. He assumed his new duties on February 28, 2005.

The Land Use Policy and Planning Coordinator also hired and supervised one student, Gillian Dumencu, during a 14-week work placement in Sudbury through the Summer Experience Program. She provided valuable support for the land use group.

CROWN LAND USE PLANNING

Although the Ministry of Natural Resources has overall responsibility for surface activities on Crown land through the *Public Lands Act*, the Ministry of Northern Development and Mines has responsibility for managing Crown mining rights. Thus, land use planning initiatives undertaken by the Ministry of Natural Resources may impact on the interests of the Ministry of Northern Development and Mines and its clients.

Members of the land use group contribute to a wide range of Crown land use planning initiatives and site-specific work in areas across the province. Clients with whom they are involved while engaged in this work include prospectors, representatives of junior and senior mineral exploration and development companies; concerned citizens; various First Nation communities; small and large municipalities; commercial and industrial enterprises including the forest industry; and various provincial ministries and federal agencies.

Ongoing and current Crown land use planning initiatives with which the land use group was involved in 2004 are described below, along with the contributions made by the Land Use Policy and Planning Coordinator and Regional Land Use Geologists.

Ontario's Living Legacy

The Ontario's Living Legacy land use strategy was announced in 1999 as the province's Crown land management initiative to establish representative protected areas in central Ontario. At the same time, it was intended to strengthen the economic health of the region. The land use strategy identified a total of 378 new provincial parks, park additions and conservation reserves, 9 Signature Sites and 86 enhanced management areas within the "Area of the Undertaking" as identified under the *Crown Forest Sustainability Act*. The Area of the Undertaking is roughly co-incident with those portions of Ontario south of the 51st parallel that are underlain by Precambrian rocks.

For the purposes of the Ontario's Living Legacy land use strategy, the Area of the Undertaking was divided into 3 planning areas, Boreal West, Boreal East, and Great Lakes–St. Lawrence. The Boreal West region is approximately the same as the northwest Regional Land Use Geologist's region. The Boreal East region includes the Ministry of Natural Resources districts of Wawa, Chapleau, Timmins, Kirkland Lake, Cochrane, and Hearst, and is included within the northeast Regional Land Use Geologist's region. The Ministry of Natural Resources districts of North Bay, Sudbury and Sault Ste. Marie are part of the Great Lakes–St. Lawrence planning area. They were handled by the southern Regional Land Use Geologist along with the rest of the Great Lakes–St. Lawrence planning area, even though they are actually within the northeast Regional Land Use Geologist's region.

Of the protected areas, 21 new parks and 75 new conservation reserves are located in the Boreal West planning area, 31 new parks and 62 new conservation reserves are located in the Boreal East planning area, and 54 new parks and 135 new conservation reserves are located in the Great Lakes–St. Lawrence planning area. An additional conservation reserve northeast of Elliot Lake, commemorating 4 Ministry of Natural Resources employees who were killed in a helicopter crash in January 2003, was added to the list of Ontario's Living Legacy protected areas being regulated in the Great Lakes–St. Lawrence planning area.

The Land Use Policy and Planning Coordinator and the Regional Land Use Geologists responded to numerous client inquiries concerning the Ontario's Living Legacy land use strategy and its implementation during 2004. Progress reports regarding various aspects of the land use strategy are provided below.

SITE REGULATION

The plan was to regulate the new parks and conservation reserves, and to develop strategies for the other special management areas over the course of several years. The first sites were regulated in June 2000, and many of the new protected areas have been regulated since then. In 2004, the Land Use Policy and Planning Coordinator and Regional Land Use Geologists continued to work with staff of Ministry of Natural Resources and representatives of the mineral sector to regulate these protected areas.

Work done included monitoring the proposed final boundaries of sites being prepared for regulation using data shared by Ministry of Natural Resources planning staff. The sites were screened for potential impacts on mining

lands and areas of high mineral potential using ArcView® GIS software, and recommendations for boundary adjustments were made where such impacts were identified. Re-withdrawals to accommodate boundary adjustments were facilitated where needed.

The progress of the sites through the regulation process was monitored, and relevant information concerning any changes in size or other concerns was recorded. In addition, representatives of mineral sector organizations were notified of public consultation periods, during which they could provide comments before sites were regulated.

The province-wide status of the regulation process at the end of 2004 is indicated in Table 1. Plans are to regulate 12 more parks and 31 more conservation reserves early in 2005.

Table 1. Regulation status of Ontario's Living Legacy sites province wide.

Current Status	Parks			Conservation Reserves		
	Number of Sites Regulated	Total Number of Sites	% of Sites Regulated/ to Regulate	Number of Sites Regulated	Total Number of Sites	% of Sites Regulated
Number of sites – End of 1999	0	106	0%	0	272	0%
Number of sites – End of 2000	8	106	8%	38	272	14%
Number of sites – End of 2001	15	106	14%	82	272	30%
Number of sites – End of 2002	33	106	31%	132	272	49%
Number of Sites – End of 2003	69	106	65%	206	272	76%
Number of Sites – End of 2004	72	106	68%	218	272	80%
Number of Sites – Early 2005	12	106	11%	31	272	11%
Total Remaining to be Regulated	22	106	21%	23	272	8%

The current regulation status of the Ontario's Living Legacy protected areas in the 3 planning areas is shown in Table 2.

Table 2. Regulation status of Ontario's Living Legacy sites in the 3 planning areas.

Planning Area	Parks			Conservation Reserves		
	Number of Sites Regulated	Total Number of Sites	% of Sites Regulated	Number of Sites Regulated	Total Number of Sites	% of Sites Regulated
Boreal West	19	21	90%	65	75	87%
Boreal East	17	31	55%	30	62	48%
Great Lakes–St. Lawrence	36	54	67%	123	135	91%
Total Regulated at the End of 2004	72	106	68%	218	272	80%

The required public consultation process for the remaining 33 sites in the Great Lakes–St. Lawrence planning area has been completed. The regulation of some of the remaining sites in the other planning areas has been deferred due to issues raised by First Nations. For example, the regulation of 2 sites has been deferred due to the Fort William First Nation land claim.

DISENTANGLEMENT

When the Ontario's Living Legacy land use strategy was announced in 1999, it included many areas selected for protection in parks and conservation reserves that overlapped pre-existing mining lands. Such areas of overlap were designated as "forest reserves". The land use direction was that no resource development activity other than mineral exploration would be allowed in these areas. The intention was that if the mining lands lapsed through normal processes, they would be automatically withdrawn from staking and added to the protected area. The land use strategy also provided for ongoing access to forest reserves for exploration and development.

When the land use strategy was approved, there were forest reserves associated with an estimated 107 of the new parks and conservation reserves, province-wide. Some of these conflicts were resolved when more detailed mapping information became available. Others were resolved between 1999 and 2002, when many of the areas of mining lands that were designated as forest reserves lapsed. Claim holders stated that the forest reserve designation made it

impossible for them to option their properties or raise funds to do the work needed to keep them in good standing. At the same time, environmental groups argued that the forest reserve concept and the Ontario's Living Legacy land use strategy provision that allowed controlled mineral exploration to continue in areas with provincially significant mineral potential within the new parks and conservation reserves meant that there would be "mining" in protected areas.

The Ministers of Natural Resources and Northern Development and Mines sent a letter to the Ontario Prospectors Association and Partnership for Public Lands on March 15, 2002. In it, they invited the groups to provide joint recommendations to government on the best way to "disentangle" the remaining mining lands in forest reserves from the Ontario's Living Legacy sites, and thereby resolve the concerns of both groups.

Sites that were the subject of disentanglement discussions are listed in Table 3.

Table 3. Sites subject to disentanglement discussions.

Site Number	Living Legacy Planning Area	Site Name
C14	Great Lakes – St. Lawrence: Conservation Reserves	Mellon Lake Conservation Reserve
C98		Harrison Lake Forest Conservation Reserve
C138		Blue Lake End Moraine Conservation Reserve
C159		McLaren Forest Conservation Reserve
C178		MacClennan Esker Conservation Reserve
C206		Centre Creek Old Growth White Pine Conservation Reserve
C215		Gough Outwash Forest Conservation Reserve
P173	Great Lakes – St. Lawrence: Parks	Sturgeon River Additions Provincial Park
P174		Chiniguchi Waterway Provincial Park
P187		Killarney Lakelands and Headwaters Provincial Park
P192		Spanish River Provincial Park
P228		River aux Sables Provincial Park
P261		Little White River Provincial Park
P273		Algoma Headwaters Provincial Park
P278		Pancake Bay Additions Provincial Park
P282		Batchawana River Provincial Park
P331		Killarney Provincial Park Additions
F172	Great Lakes – St. Lawrence: Forest Reserves	Daisy Lake Uplands
F175		Wolf Lake Old Growth Forest
F179		Capreol/Hanmer Delta
F181		Kukagami Lake
F207		Cow Lake
F208		Dowling/Fairbank
F212		Shakespeare Forest
F216		Nelson Delta East
C1509	Boreal East: Conservation Reserves	Kwinkwaga Ground Moraine Uplands Conservation Reserve
C1517		South Michipicoten River – Superior Shoreline Conservation Reserve
C1519		Lake Superior Highlands Conservation Reserve
C1527		Manitou Mountain Conservation Reserve
C1564		Woman River Complex Conservation Reserve
C1584		Tatachikapika River Plain Conservation Reserve
C1587		Meteor Lake Outwash Fans Conservation Reserve
C1594		Grassy River Halliday Lake Forests & Lowlands Conservation Reserve
C1596		Whitefish River Sandy Till Conservation Reserve
C1597		Night Hawk Shoreline Bluffs Conservation Reserve
C1600		Mistinikon Lake Uplands Conservation Reserve
C1602		Whitefish and East Whitefish Lakes Sandy Till Upland Conservation Reserve
C1603		Elspeth Lake White Birch Outwash Conservation Reserve
C1607		Kesagami River Outwash Plain Conservation Reserve

Site Number	Living Legacy Planning Area	Site Name
C1626	Boreal East: Conservation Reserves (cont'd)	South Grassy Lake Outwash Conservation Reserve
C1628		Trollope Lake Burnt Hill Poplar Spruce Conservation Reserve
C1704		Hilliardton Marsh Conservation Reserve
C1705		McGarry Township Forest Conservation Reserve
C1712		Coral Rapids Wetland Conservation Reserve
P1501	Boreal East: Parks	Craigs Pitt Provincial Park Addition
P1506		White Lake Provincial Park Addition
P1557*		Ivanhoe Provincial Park Addition
P1569		Groundhog River Waterway Provincial Park
P1591		MacMurchy Township End Moraine Provincial Park
P1616		Abitibi–De Troyes (Reconfiguration and Reclassification)
P1621		Esker Lakes Addition
P1622		Lake Abitibi Islands Provincial Park
P1632		Gem Lake Maple Bedrock Provincial Park
P1639		Grassy River – Mond Lake Lowlands & Ferris Lake Uplands Provincial Park
P1715		West Montreal River Provincial Park
C2225	Boreal West: Conservation Reserves	Gravel River Conservation Reserve
C2245		Lake Superior Archipelago
C2247		Lake Nipigon Conservation Reserve
C2332		Bruce Lake Conservation Reserve
C2334		Trout Lake Conservation Reserve
C2340		Eagle Lake Islands
C2354		Hamill Lake Conservation Reserve
C2366		Lake of the Woods
P2239	Boreal West: Parks	Ruby Lake Provincial Park
P2363		Eagle – Dogtooth Provincial Park
P2370		Woodland – Caribou Provincial Park Addition

* This site was added to the original list of sites identified for disentanglement.

The Ontario Prospectors Association (OPA) and the Partnership for Public Lands (PPL) engaged in "disentanglement" discussions in 2002 and 2003. Although they did not comment on 8 stand-alone forest reserves, or 3 other sites added after their discussions began, they made joint recommendations on July 2, 2003 for disentangling approximately half of the 66 Ontario's Living Legacy sites where conflicts remained. They also asked the government to recommend solutions for their consideration on 20 sites where they could not reach agreement on disentanglement.

Ministry of Natural Resources and Ministry of Northern Development and Mines staff reviewed the joint recommendations, and in 2004 developed government solutions for resolving 18 of the 20 "deferred" sites, as well as the 8 stand-alone forest reserves and 3 add-on Ontario's Living Legacy sites not considered by the Ontario Prospectors Association and Partnership for Public Lands. The government's solutions were aimed at reducing the conflict as much as possible while achieving the 12% target for protection and balancing resource management considerations. The government's proposed solutions were based upon the following considerations and/or combinations thereof:

- maintain the status quo;
- make a minor boundary adjustment, without adding replacement land to compensate for the change;
- make a boundary change, and adding replacement land to compensate for the change replacement area; and
- find a completely new protected site.

The government's response to the joint OPA–PPL recommendations and the proposed solutions for the deferred sites were presented to the Ontario Prospectors Association and Partnership for Public Lands in July 2004. The groups responded to the government's suggested solutions in October and November of 2004.

The Senior Manager of the Resident Geologist Program represented the Ministry of Northern Development and Mines during the various disentanglement discussions. The Regional Land Use Geologists provided considerable support to him during the course of these talks, both while discussions involving the Ontario Prospectors Association and Partnership for Public Lands were going on, and while subsequent sessions involving only Ministry of Natural Resources and Ministry of Northern Development and Mines were taking place.

The support included compiling site-specific information such as past and current mining land tenure; tallying mineral sector investments in various sites as indicated by work reported for assessment credit; recording the history of site-specific discussions that led to the selection of sites for protection under the Ontario's Living Legacy land use strategy; and evaluating the metallic and industrial mineral potential of the sites. The Regional Land Use Geologists also used their local knowledge of the sites in their regions to make observations about the recommended options for disentanglement to the Senior Manager.

One site, C1564, the Woman River Complex Conservation Reserve southwest of Timmins, was the subject of considerable work outside of the disentanglement discussions. This site, which covers 9463 hectares, was selected for protection without recognition of the fact that the mining rights for the site are privately owned. Even though the surface rights belong to the Crown, the site is not available for regulation as a protected area.

In 2004, several meetings were held involving Ministry of Natural Resources, the Partnership for Public Lands, and the forestry companies Domtar Inc. and Tembec Inc., the Sustainable Forest Licence holders for the Romeo–Malette and Pineland–Martel Forests in the area where replacement lands for C1564 are being sought. Representatives of the Ontario Prospectors Association and local First Nations were also present. The meetings were to share and review possible options for the replacement lands. The northeast Regional Land Use Geologist attended these sessions and provided information concerning the mining land tenure and the mineral potential in the areas under consideration. Discussions concerning options for replacing C1564 are continuing, but it is anticipated that due to the Ministry of Northern Development and Mines involvement in the site-selection process, impacts on areas of mining lands and areas of high mineral potential will be minimized.

EXCLUSIONS OF TIME

While the disentanglement discussions were going on, the Ontario Prospectors Association became concerned that claimholders were continuing to lose their claims in forest reserves because of the ongoing uncertainty about the ultimate status of the forest reserves, and because of the amount of time being taken for the disentanglement discussions. In a letter dated May 8, 2003, the association formally asked the government to exclude any remaining mining lands in forest reserves from the requirements for assessment work until the final configuration of the sites are decided, effectively "freezing" the claims until the disentanglement process is completed.

By July 2, 2003, the date the Ontario Prospectors Association and Partnership for Public Lands submitted their formal recommendations on disentanglement to the government, only about 27 850 hectares of forest reserves remained. The remaining forest reserves tended to be areas of longstanding mining lands with significant mineral values.

The Ministry of Northern Development and Mines and Ministry of Natural Resources discussed the possibility of "freezing" requirements for assessment work, and ultimately agreed that a one-year freeze would be given through an Exclusion of Time to all claims within forest reserves that were in good standing as of July 2, 2003. It was also agreed that claims that had lapsed since July 2, 2003 would be reinstated where feasible, and the one-year Exclusion of Time applied to them too. This action does not change the ultimate outcome for each site and therefore was not considered to be a policy change to the Ontario's Living Legacy land use strategy or to require public consultation.

The exclusions of time were granted in late 2004 and early 2005. For each claim, the freeze began on the day that the individual exclusion order was signed. Claims that had lapsed since July 2, 2003 were reinstated, where feasible, for a period of one year. Notices regarding the Exclusion of Time and decision were sent to all affected claimholders.

A list of staked and leased claims located within forest reserves across the province, with their expiry dates, was compiled by the Regional Land Use Geologists with the assistance of the Summer Experience student. In addition, a list of eligible claims that had lapsed since July 2, 2003 was prepared. After reviews to ensure that they were

complete and correct, the lists, including approximately 1100 mining claims and leases, were supplied to the Mining Lands Section where they were used as the basis for reinstating the lapsed claims and applying the Exclusion of Time.

SIGNATURE SITES

As mentioned previously, the Ontario's Living Legacy land use strategy identified 9 Signature Sites in addition to the 378 new parks, park additions and conservation reserves. The Land Use Policy and Planning Coordinator and Regional Land Use Geologists continued to provide input into the development of management plans and other strategies for the Signature Sites in 2004. The classes of Crown land in each of the Signature Sites are listed in Table 4, along with the contact within the Resident Geologist Program land use group involved with each of the Signature Sites.

During development of management plans for all Signature Sites, the representatives of the land use group have promoted the concepts that:

- mineral exploration and development interests need to be considered and balanced with natural heritage values;
- management plans for new protected areas need to consider other activities and interests on surrounding Crown and private lands;
- decades of mineral exploration activity have not significantly impacted or degraded the natural environment, since areas of high mineral potential that have long exploration histories were chosen for their natural heritage values as new protected areas; and
- the mineral sector now has a greater awareness of environmental concerns than in the past, and has voluntarily adopted exploration practices that limit potential environmental impacts.

Table 4. Signature Sites and land use group contacts.

Signature Site		Land Use Group Contact
Name	**Land Status***	
Algoma Headwaters	• provincial parks • conservation reserves	Northeast Regional Land Use Geologist
Great Lakes Heritage Coast	• general use areas • enhanced management areas • provincial parks • conservation reserves	Land Use Policy and Planning Coordinator
Kawartha Highlands	• provincial parks	Southern Regional Land Use Geologist
Killarney	• enhanced management areas • provincial parks	Southern Regional Land Use Geologist
Lake Nipigon Basin	• enhanced management areas • provincial parks • conservation reserves	Northwest Regional Land Use Geologist
Nagagamisis Central Plateau Complex	• enhanced management areas • provincial parks	Northeast Regional Land Use Geologist
Spanish River Waterway	• enhanced management areas • provincial parks	Southern Regional Land Use Geologist
St. Raphael	• enhanced management areas • provincial parks	Northwest Regional Land Use Geologist
Woodland Caribou	• enhanced management areas • provincial parks • conservation reserves	Northwest Regional Land Use Geologist

* The various Signature Sites may contain one or more areas of the various Crown land use classifications cited.

Algoma Headwaters Signature Site

The Algoma Highlands Signature Site planning team began its work during 2002, when it released its Terms of Reference for public review. The northeast Regional Land Use Geologist is the contact within the land use group for this Signature Site. The District Geologist in the Sault Ste. Marie office is also an advisor to the Algoma Highlands Signature Site planning team.

The northeast Regional Land Use Geologist participated in Open Houses arranged to garner public input regarding the Algoma Headwaters Signature Site in January 2003. A "Background Information" document was released for public review at the time of the open houses. Subsequent to the open houses, Ministry of Natural Resources developed its preliminary management strategy for the site, which it released for public review and comment on February 28, 2005.

Great Lakes Heritage Coast Signature Site

The Great Lakes Heritage Coast Signature Site is the most complex of the Signature Sites. It extends 2900 km from the shores of Georgian Bay to the western end of Lake Superior, and encloses areas of general-use Crown land, enhanced management areas, provincial parks, and conservation reserves. In addition, it encompasses areas of private lands – including areas within municipal jurisdictions – plus all or part of 18 Indian Reserves.

The planning team for the Great Lakes Heritage Coast Signature Site shifted its focus from public consultation to data compilation and review in 2003. The Land Use Policy and Planning Coordinator reviewed the resulting report in early 2004, provided comments to the planning team, and offered to provide additional information concerning mining lands, mineral exploration and development activities, etc., if desired.

Since then, the Ministry of Natural Resources has been reviewing the work completed to date, and preparing recommendations on future directions for this Signature Site. Based on the public consultations to date, and recommendations from project consultants and partner ministries, it is likely that the focus of the Great Lakes Heritage Coast Signature Site will be the role that it can play in enhancing tourism and economic development opportunities for areas within the Signature Site.

Kawartha Highlands Signature Site

The Kawartha Highlands Signature Site Local Stakeholders' Committee submitted its final report to the Minister of Natural Resources in December 2001. In its report, the Local Stakeholder Committee recommended that the Kawartha Highlands Signature Site be regulated as a park. In response, the Minister of Natural Resources proposed a new land use designation, Recreation Reserve, in the fall of 2002.

An act to establish Recreation Reserves as a class of protected areas and to legislate the Kawartha Highlands Signature Site as a Recreation Reserve passed first reading in 2002, but that ceased to exist when the Legislature was prorogued in March 2003. In place of the original Bill, the new government proposed the *Kawartha Highlands Signature Site Park Act*, on June 17, 2003. The act received second and third reading on June 19, and was given Royal Assent on June 26, 2003,whereupon the site became a provincial park.

Since then, Ministry of Natural Resources staff have been compiling inventories of the natural heritage and life science values present in the area. Once this work is complete, and work is begun on a draft management plan for the site, the Southern Regional Land Use Geologist will provide input to the planning team and comment on draft management strategies.

Killarney Signature Site

A draft management plan for Killarney Provincial Park was prepared in 1998. A notice inviting members of the public to review and comment on the draft plan was first published on August 24, 1998. A decision was later made not to proceed with the management plan, since additions along all margins of Killarney Provincial Park were proposed through the Ontario's Living Legacy land use strategy.

The intent is to incorporate the draft Killarney Provincial Park Management Plan into an expanded project of Killarney Signature Site planning. The Killarney Signature Site planning will include the existing park, park additions and adjacent new parks and enhanced management areas.

The adjacent new parks and park additions include 2 of the sites where pre-existing mining lands were overlain by new protected areas. These sites were among the areas discussed by the Partnership for Public Lands and the Ontario Prospectors Association during their "disentanglement" talks. The preparation of the new management plan is awaiting a decision as to how the conflicts between the pre-existing mining lands and new protected areas are to be resolved.

Lake Nipigon Signature Site

The planning team for this Signature Site circulated its draft Ecological Land Use Resource Management Strategy in 2004. The northwest Regional Land Use Geologist, contact within the land use group for this Signature Site, reviewed the document and provided comments on proposed new mineral sector protocols regarding sustainable mineral exploration practices. In addition, the northwest Regional Land Use Geologist provided explanations for contentious mineral exploration protocols in the draft strategy to the Ontario Prospectors Association, and obtained a draft Resource Management Map for the Lake Nipigon Conservation Reserve, a part of the Signature Site, for the Lake Nipigon Region Geoscience Initiative science committee.

Nagagamisis Central Plateau Complex Signature Site

The northeast Regional Land Use Geologist, the contact person within the land use group for this Signature Site, participated in Open Houses held in June 2003 to obtain public input regarding the Nagagamisis Signature Site. Following these Open Houses, the planning team for the Nagagamisis Central Plateau Complex Signature Site developed its draft Management Options and Site Strategy. The draft document was circulated for review and comment in 2004 and the northeast Regional Land Use Geologist commented on sections of the strategy that relate to mineral resources, mineral exploration and development activities.

Spanish River Waterway Signature Site

The Spanish River Signature Site steering committee completed work on its draft management plan in 2004, and released its draft Management Options document for review and comment in August. The southern Regional Land Use Geologist, the contact within the land use group for this Signature Site, reviewed the draft document and provided comments on the proposed provisions.

St. Raphael Signature Site

The northwest Regional Land Use Geologist is an advisor to the St. Raphael Signature Site planning team. In 2003, he advised the planning team of the need to be sensitive to the mineral industry's needs, and the mineral potential of the area. The northwest Regional Land Use Geologist continued to provide input into the planning initiative in 2004. Input included providing additional information with regard to mineral exploration; suggesting exploration best practices for exploration and development in the enhanced management area within the Signature Site that did not include "prescribed actions" in areas of concern; and commenting on the draft "Issues and Options" paper prior to its release for public review.

One notable feature of the draft Issues and Options paper is its recognition that the 62 705-hectare enhanced management area in the Signature Site is entirely enclosed by St. Raphael Provincial Park, and that the *Parks Act* prohibits crossings for the purposes of mineral exploration and mining. The document also addresses water crossings for the purposes of forestry activities, and notes that mineral-sector workers should plan to use forest access roads to gain access to the enhanced management area.

Woodland Caribou Signature Site

The northwest Regional Land Use Geologist coordinated geological representation on the Woodland Caribou Signature Site planning team with the Red Lake Regional Resident Geologist during 2004. Background information regarding this Signature Site was released for public review in February 2004.

As with the St. Raphael Signature Site, input into the Woodland Caribou Signature Site planning process in 2004 included providing additional information regarding mineral exploration and suggesting best practices for exploration and development in the enhanced management area within the Signature Site.

ENHANCED MANAGEMENT AREAS

The Ontario's Living Legacy land use strategy identified 86 enhanced management areas across the province. Since several were made up of more than one map unit, there are actually 98 map units with the enhanced management area designation. They were identified due to the presence of special natural heritage values, or the need for special management. They fall into 5 of the 7 categories of enhanced management areas identified in the land use strategy. The 2 remaining categories were established for future use in land use planning. The categories of enhanced management areas, and numbers of each are listed in Table 5. The parts of large enhanced management areas that are identified by different names in the Crown Land Use Atlas are counted separately in the table.

Table 5. Categories of enhanced management areas.

Category—Enhanced Management Area	Number of Map Units—Boreal West Area	Number of Map Units—Boreal East Area	Number of Map Units—Great Lakes – St. Lawrence Area	Total Number of Map Units
a – remote access	4	2	33	39
g – Great Lakes coastal areas	1	0	7	8
i – intensive forestry	0	0	0	0
n – natural heritage	0	2	25	27
r – recreation	4	0	15	19
t – resource-based tourism	0	0	0	0
w – fish and wildlife	4	0	1	5
Total of enhanced management areas	13	4	81	98

Although not indicated on claim maps, enhanced management areas are identified in the Ministry of Natural Resources' Land Use Atlas, available on-line at:

http://crownlanduseatlas.mnr.gov.on.ca/

Ministry of Natural Resources staff members are currently working on policies for permitted uses within the enhanced management areas established through the Ontario's Living Legacy land use strategy. Since some of the proposed policies and guidelines may have impacts on mineral exploration and development activities, the land use group reviews and comments on the draft policies as they are developed. In 2004, these reviews took place both in the context of the Signature Site management plan development, for those sites associated with Signature Sites, and independently for stand-alone enhanced management areas.

MINERAL RESOURCE ASSESSMENTS

The Ontario's Living Legacy land use strategy originally contained a provision that allowed "controlled exploration" in those portions of new protected areas where "provincially significant mineral potential" is present. This was the impetus for an industry-government committee of geoscientists to begin work on developing the Provincially Significant Mineral Potential mineral resource assessment methodology.

Although the Government found that reconciling the needs of protected areas and the interests of the exploration community in such areas was proving to be too difficult, and announced in March 2002 that "controlled exploration" would not be allowed within the new protected areas, work to enhance and refine the methodology continued.

The draft mineral resource assessment was posted on the Environmental Registry for public review and comment in 2002. The land use group worked with staff from the regional and district offices of the Resident Geologist Program in 2004 to validate the outcomes of mineral resource assessments in selected areas, and identify any additional modifications that might be needed to the methodology.

The methodology was originally intended for detailed manual reviews at scales of 1:50 000 or greater detail. It was recognized early in the development process, however, that there was a demand for generalized automated reviews at scales of 1:250 000 or less detail. A process for completing generalized automated reviews was developed with the assistance of a GIS consultant. The automated process uses the principles behind the Provincially Significant Mineral Potential methodology, but does not query the geoscience data in detail. For this reason, the automated 1:250 000 scale products are broad-brush approximations of mineral potential and do not represent true or accurate mineral resource assessments.

The land use group worked to update the databases to support the automated process in 2004, including upgrading the information stored in the tables that accompany the Provincially Significant Mineral Potential industrial mineral maps. New data tables were also created to capture more data from the Mineral Deposit Inventory database. In addition, the Mineral Deposit Inventory data were edited and updated during the summer of 2004.

The Regional Land Use Geologists and other staff from the Resident Geologist Program conducted a review to compare the actual outcomes of mineral resource assessments done using the manual and automated methodologies to the anticipated outcomes, in an effort to assure the validity of the methodologies. At the same time, they worked to do a model-by-model analysis of the automated process, improve the screening and scoring criteria for the models, and test the outcomes of analyses done on selected areas in the province.

Such work will continue in future. Both the manual and automated mineral resource assessment methodologies will be monitored and updated as new data become available, ore deposit models are better understood, and market factors and exploration targets change.

ROOM TO GROW

The Ontario Forest Accord, which was released at the same time as the Ontario's Living Legacy land use strategy, includes provisions for establishing additional protected areas if the amount of wood harvested from within a forest management unit (a geographic planning area) increases. The provision for establishing additional protected areas is known as "Room to Grow".

In 2003, the Ministry of Natural Resources established Room to Grow Leadership and Implementation teams. The Senior Manager of the Resident Geologist Program is a member of the Leadership Team, while the southern Regional Land Use Geologist is a member of the Implementation Team. The main objective of the Implementation Team was to prepare procedural guidelines outlining the process to be followed if and when the Room to Grow provision is triggered. The guidelines, which were completed in November 2004 and forwarded to the Leadership Team for review and approval, reflected advice from the northwest Regional Land Use Geologist, who provided advice to the Implementation Team based on his direct involvement in 2 Room to Grow pilot projects.

Fundamental principles advanced during development of the procedural guidelines, and during site-specific discussions of candidates for protection, were that active mining lands should be avoided and the mineral potential should be considered along with all other values present.

Room to Grow Initiatives

There are currently 2 pilot Room to Grow initiatives going on in the province, both in northwestern Ontario. One involves Bowater Incorporated, and the other involves Longlac Wood Industries. As a result, new protected areas were proposed in the Bowater forest management units and in forest management units producing fibre processed at the mill of Longlac Wood Industries in Longlac, Ontario. These initiatives were triggered when Bowater Incorporated was licenced to install 2 new sawmills in its timber limits in 2001 and 2002, and Longlac Wood Industries proposed to process birch fibre, which it had not previously used, for a new oriented strandboard production line.

Fourteen new candidate protected areas were proposed within the Bowater forest management units. Several of them captured existing mining claims and/or were situated in areas of high mineral potential in greenstone belts. The Land Use Policy and Planning Coordinator and northwest Regional Land Use Geologist facilitated arrangements for a private sector consultant to complete mineral resource assessments of the remaining sites, using the detailed Provincial Significant Mineral Potential methodology in late 2003.

Initial reviews of the results conducted by the northwest Regional Land Use Geologist and Land Use Policy and Planning Coordinator in early 2004 led to the recognition that 2 sites should be eliminated completely from consideration. The reviews also led to the recognition that significant boundary adjustments should be made to several other sites to minimize their impact on mineral values.

Following the review of the mineral resource assessments, the northwest Regional Land Use Geologist advised other members of the planning team of the implications of the information received, and helped resolve concerns with regard to the 2 candidate sites where conflicts with mineral-related interests had been identified. Work on this Room to Grow initiative is ongoing.

Work on the Longlac Wood Industries Room to Grow initiative is a little more advanced than the Bowater Incorporated initiative. Work conducted by the northwest Regional Land Use Geologist with regard to this initiative in 2004 included providing mineral resource potential maps for 4 candidate sites under consideration east of Lake Nipigon, and consulting with the Ministry of Northern Development and Mines' Mining Lands Section regarding the interim protection of the candidate sites by withdrawing them from staking. Representatives of the Partnership of Public Lands, the Ontario Prospectors Association, the Ontario Waterpower Association, and the forestry company were involved in the process to select the candidates for protection.

Work on the Longlac Wood Industries Room to Grow initiative culminated in December 7, 2004, with the release of the 4 sites for public consideration as new protected areas. They include 1 new conservation reserve, additions to 2 existing conservation reserves (Onaman Lake and Kagianagami Lake) and an addition to 1 provincial nature reserve (Sedgman Lake). The proposed protected areas total approximately 14 700 hectares. None of the sites have conflicts with mining lands, and all are located in areas of low to moderate mineral potential.

OTHER PROTECTED AREAS

During 2004, the Land Use Policy and Planning Coordinator and the Regional Land Use Geologists provided input to Ontario Parks and the Ministry of Natural Resources with regard to a number of parks and conservation reserves, including some predating the Ontario's Living Legacy land use strategy and some established by the initiative. Such work included reviewing newly prepared park management plans and statements of conservation interest (the equivalent of a management plan for conservation reserves), as well as revised park management plans for long-established parks. It also included reviewing proposals for boundary adjustments for existing and proposed parks, providing information about mineral exploration and development in areas of interest, and making recommendations for changes to withdrawal orders to accommodate the proposals.

The Land Use Policy and Planning Coordinator and northwest Regional Land Use Geologist also reviewed the draft federal-provincial Agreement in Principle regarding the proposed Lake Superior National Marine Conservation Area, and supplied comments regarding the accommodation of Ministry of Northern Development and Mines' interests in the document.

Forest Management Plans

For the purposes of forest management, Ontario's Crown forest is divided into geographic planning areas known as forest management units. Forest management plans are prepared for each of these management units and are periodically renewed based on the five-year forest management planning cycle.

There will be 48 forest management units in Ontario as of April 1, 2005. The number of units dropped from 49 in 2004–2005 when the Algoma Forest and Wawa Forest were combined. The boundaries of the forest management units are illustrated in Figure 1. Table 8 lists the names of the forest management units by number.

Of the 48 forest management units, 44 have sustainable forest licences (SFL) issued under the *Crown Forest Sustainability Act* to companies or partnerships. The province, through the Ministry of Natural Resources, continues to have management responsibility for the Cochrane–Moose River and Temagami forest management units, along with the Southern Ontario management unit, which consists largely of private land and is not subject to the *Crown Forest Sustainability Act*. The remaining forest management unit is the Algonquin Park Forest.

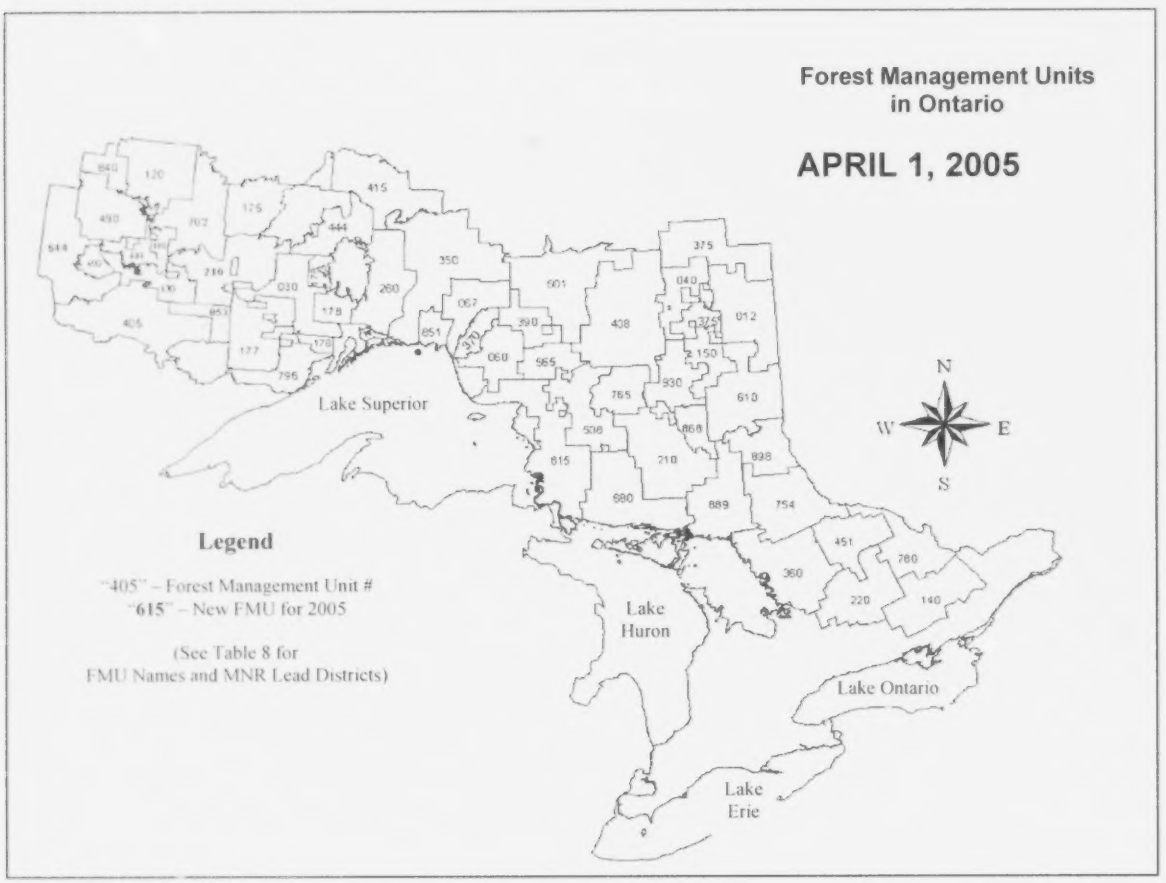

Figure 1. Locations of forest management units (FMU) in Ontario, April 1, 2005.

The peak year for forest management planning workload was 2004, since 12 plans were scheduled for implementation in 2005, and 15 plans scheduled for implementation in 2006 were under preparation. In addition, planning efforts for 6 plans to be implemented in 2007 began early in the 2004–2005 fiscal year. These 6 plans will be the first to be developed subject to the provisions of the newly revised forest management planning manual. Planning efforts for 6 more plans to be implemented in 2008 will begin early in the 2005–2006 fiscal year.

Forest management units in Ontario range in approximate size from 210 000 hectares with 122 000 hectares of productive forest (Dryden Forest), to 1 863 000 hectares with 1 549 000 hectares of productive forest (Kenogami Forest). The average size of the 48 forest management units (as of April 1, 2005) is 715 000 hectares with 560 000 hectares of productive forest. Overall, there are approximately 33 589 000 hectares of managed forest in the province, including forest, nonproductive forest, and nonforested land and water, with 26 333 000 hectares of that being productive. The numbers of forest management units of various size classes within the province are indicated in Table 6.

All Crown-managed forests include productive forest, nonproductive forest, nonforested land, and water. Areas classed as "productive forest" include protection forest and production forest. Production forest includes barren areas, scattered forest areas, recent cutovers and forested lands.

Table 6. Number of forest management units of various size classes in the province.

Crown-Managed Productive Forest (size class)	# of Management Units
100 001 to 300 000 hectares	10
300 001 to 500 000 hectares	14
500 001 to 700 000 hectares	8
700 001 to 900 000 hectares	11
More than 900 000 hectares	4
Total	47*

* Southern Ontario is not included in this total. It is a nontypical management unit, located outside of the area covered by the *Crown Forest Sustainability Act*, and is primarily private land.

Parks, conservation reserves and areas of unmanaged Crown forests within forest management units are not included in the size calculations of the forest management units. In cases where parks and conservation reserves were established through the Ontario's Living Legacy land use strategy, however, the newly designated protected areas are being deducted from the totals of managed forest and productive forest when the plans for forest management units are updated on their five-year cycle. This means that some areas of productive forest set aside as new parks or conservation reserves have not yet been deducted from the total areas of managed and productive forest in the province. The actual area of productive forest in the province is therefore something less than 26 333 000 hectares.

The number of forest management units has been steadily decreasing due to amalgamations since the *Crown Forest Sustainability Act* was enacted in 1994. Reductions in the number of management units have generally taken place through the amalgamation of 2 or 3 existing management units. The amalgamations are done concurrently with the implementation of a forest management plan for the newly amalgamated management unit. The savings generated by amalgamation are primarily represented by forest planning and administrative efficiencies. Further amalgamations are planned and/or expected. The overall change in the number of forest management units is shown in Table 7. Further rationalization may take place after 2006–2007.

Table 7. Change in the number of forest management units since 1995.

Date	Number of Forest Management Units
April 1, 1995	81
April 1, 1996	78
April 1, 1997	71
April 1, 1998	69
April 1, 1999	68
April 1, 2000	63
April 1, 2001	56
April 1, 2002	54
April 1, 2003	50
April 1, 2004	49
April 1, 2005	48
April 1, 2006	47

As noted earlier, the drop in the number of forest management units in the province from 49 to 48 as of April 1, 2005 was due to the amalgamation of the Algoma Forest and the Wawa Forest.

The names of the various forest management units are listed in Table 8 in numerical order according to the management unit number shown in Figure 1. Some management units straddle the boundaries between 2 of the Regional Land Use Geologists' areas, so are listed later in this document in the reports for both areas. For information on a specific management unit or forest management plan, please contact the District Manager at the Ministry of Natural Resources District indicated in the list.

Each management unit requires a forest management plan to guide all forestry operations in the Crown forests in question. The forest management plans cover a rolling twenty-year cycle, and are reviewed and updated every 5 years. This means, for example, that revisions for plans spanning the years 2000–2020 will be implemented in 2005 for the period 2005–2025, and revisions for plans spanning the years 2001–2021 will be implemented in 2006 for the period 2006–2026. Planning for the 2006–2026 plans has already begun.

Table 8. List of forest management units in Ontario (2004–2005).

FMU #	FMU Name (' – new for 2005)	Plan Period	Status	SFL Effective Date	MNR Lead District	RLUG Region
12	Iroquois Falls Forest	2005 – 2025	SFL	April 1, 1999	Cochrane	NE
30	Spruce River Forest	2001 – 2021	SFL	April 1, 1999	Thunder Bay	NW
40	Smooth Rock Falls Forest	2005 – 2025	SFL	April 1, 1995	Cochrane	NE
60	White River Forest	2003 – 2023	SFL	April 1, 2002	Wawa	NE
67	Big Pic Forest	2002 – 2022	SFL	April 1, 1996	Wawa	NE
120	Trout Lake Forest	2004 – 2024	SFL	April 1, 1998	Red Lake	NW
130	Wabigoon Forest	2003 – 2023	SFL	April 1, 1997	Dryden	NW
140	Mazinaw–Lanark Forest	2001 – 2021	SFL	April 1, 2002	Bancroft	S
150	Nighthawk Forest	2003 – 2023	SFL	April 1, 2003	Timmins	NE
175	Caribou Forest	2002 – 2022	SFL	April 1, 1998	Sioux Lookout	NW
177	Dog River–Matawin Forest	2005 – 2025	SFL	April 1, 1998	Thunder Bay	NW
178	Black Sturgeon Forest	2001 – 2021	SFL	April 1, 2001	Nipigon	NW
210	Spanish Forest	2005 – 2025	SFL	April 1, 2001	Sudbury	NE
220	Bancroft–Minden Forest	2001 – 2021	SFL	April 1, 2001	Bancroft	S
230	English River Forest	2004 – 2024	SFL	April 1, 1998	Dryden	NW
260	Lake Nipigon Forest	2001 – 2021	SFL	April 1, 2002	Nipigon	NW
350	Kenogami Forest	2005 – 2025	SFL	April 1, 1997	Nipigon	NW
360	French–Severn Forest	2004 – 2024	SFL	April 1, 1998	Parry Sound	S
370	Black River Forest	2001 – 2021	SFL	April 1, 1996	Wawa	NE
375	Cochrane–Moose River	2003 – 2023	CR		Cochrane	NE
390	Nagagami Forest	2001 – 2021	SFL	April 1, 2003	Wawa	NE
405	Crossroute Forest	2002 – 2022	SFL	April 1, 2002	Fort Frances	NW
415	Ogoki Forest	2003 – 2023	SFL	April 1, 1996	Nipigon	NW
438	Gordon Cosens Forest	2005 – 2025	SFL	April 1, 2001	Hearst	NE
444	Armstrong Forest	2005 – 2025	SFL	April 1, 1997	Thunder Bay	NW
451	Algonquin Park Forest	2005 – 2025	AFA	April 1, 1997	Algonquin Park	S
490	Whiskey Jack Forest	2004 – 2024	SFL	April 1, 1997	Kenora	NW
508	Superior Forest	2001 – 2021	SFL	April 1, 2002	Chapleau	NE
535	Dryden Forest	2001 – 2021	SFL	April 1, 1998	Dryden	NW
565	Magpie Forest	2004 – 2024	SFL	April 1, 1996	Wawa	NE
601	Hearst Forest	2002 – 2022	SFL	April 1, 2002	Hearst	NE
610	Timiskaming Forest	2001 – 2021	SFL	April 1, 1997	Kirkland Lake	NE
615	Algoma Forest'	2005 – 2025	SFL	April 1, 1997	Sault Ste. Marie	NE
644	Kenora Forest	2001 – 2021	SFL	April 1, 2002	Kenora	NW
680	Northshore Forest	2005 – 2025	SFL	April 1, 1998	Sault Ste. Marie	NE
702	Lac Seul Forest	2001 – 2021	SFL	April 1, 1998	Sioux Lookout	NW
754	Nipissing Forest	2004 – 2024	SFL	April 1, 1996	North Bay	NE
765	Pineland–Martel Forest	2001 – 2021	dSFL/ SFL	n/a / April 1, 1995	Chapleau	NE
780	Ottawa Valley Forest	2001 – 2021	SFL	April 1, 1999	Pembroke	S
796	Lakehead Forest	2002 – 2022	SFL	April 1, 1998	Thunder Bay	NW
840	Red Lake Forest	2003 – 2023	SFL	April 1, 1999	Red Lake	NW

FMU #	FMU Name ([1] – new for 2005)	Plan Period	Status	SFL Effective Date	MNR Lead District	RLUG Region
851	Pic River Ojibway Forest	2001 – 2021	SFL	April 1, 1998	Nipigon	NW
853	Sapawe Forest	2005 – 2025	SFL	April 1, 1998	Fort Frances	NW
868	Shiningtree Forest	2001 – 2021	SFL	April 1, 1998	Timmins	NE
889	Sudbury Forest	2005 – 2025	SFL	April 1, 1998	Sudbury	NE
898	Temagami	2004 – 2024	CR		North Bay	NE
930	Romeo–Malette Forest	2002 – 2022	SFL	April 1, 2002	Timmins	NE
990	Southern Ontario			n/a	Various	S
Status:						
- The information in this table is current as of the date the list was prepared.						
- Forest management units (FMU) are designated under the *Crown Forest Sustainability Act*, Section 7						
- SFL – Sustainable Forest Licence; CR – Crown Managed; dSFL – deemed SFL; AFA – Algonquin Forest Authority; RLUG – Regional Land Use Geologist						
- Information (SFL Name, Status, Plan Period; SFL Effective Date) current at date of list preparation.						
- SFL Effective Date reflects the original SFL date or an SFL amendment date reflecting a boundary change.						
- All management units effective as of April 1, 2005.						
Planned April 1, 2005 Change:						
New FMU Name (FMU#)		Previous FMU Names (FMU#)				
Algoma Forest (615)		Algoma Forest (448) and Wawa Forest (949)				
Projected April 1, 2006 Change:						
New FMU Name (FMU#)		Previous FMU Names (FMU#)				
Timiskaming Forest (280)		Timiskaming Forest (610) and Shiningtree Forest (868)				

The forest management plans address all aspects of the forest harvest, including road construction, maintenance, and abandonment; stream crossings and their abandonment; timber harvesting; and silvicultural practices. They must have regard for all resource values including social (cultural, heritage, and tourism) and ecological (fish, wildlife and environmental).

The forest industry must also have regard for (and according to Ministry of Natural Resources policies, shall consult with) holders of mining rights regarding planned annual work schedules and their potential impact on exploration activities and installations (i.e., disturbance of survey grids, trenches, drill casings, or claim boundaries). The *Mining Act* provides that anyone who causes such disturbances may have to provide compensation to the mineral sector for such impacts and disturbances.

The forest management planning process is a staged process, with numerous opportunities for public review and comment. Notices of each stage of the process of developing the plan for each forest management unit are posted on the Environmental Registry at:

http://www.ene.gov.on.ca/samples/search/Ebrquery_REG.htm

Notices for individual forest management units can be found on the Environmental Registry using the name of the forest management unit as a "keyword" search.

The stages of the plan development plan are:

- Stage one: invitation to participate – approximately 24 months before plan implementation;
- Stage two: first public information centre – approximately 16 months before plan implementation;
- Stage three: second public information centre: – approximately 9 months before plan implementation;
- Stage four: public review of draft plan – approximately 4 months before plan implementation; and
- Stage five: public review of plan approved by Ministry of Natural Resources – approximately 1 month before plan implementation.

The last opportunity for a member of the public to request a "bump-up" under the provisions of the Environmental Bill of Rights (i.e., seek a requirement for an individual environmental assessment of the forest management plan) is the last day of the public review of the plan approved by Ministry of Natural Resources.

The Land Use Policy and Planning Coordinator and the Regional Land Use Geologists worked with other staff of the Resident Geologist Program to provide information about the mineral potential and mining land status of areas where forestry management planning was underway during 2004 to Ministry of Natural Resources and forest management planning teams. They also worked to convey information to mineral sector clients about opportunities to contribute to and learn about forest management planning in their areas, such as at forest management planning open houses. In particular, information was provided through handouts and posters at the Prospectors and Developers Association of Canada annual convention, at the northwestern and northeastern Ontario symposia sponsored by local prospectors' associations and at the annual Ontario Exploration and Geoscience Seminar sponsored by the Ontario Prospectors Association.

The mineral sector can provide input and voice concerns regarding development of access roads, areas of potential disturbance to mineral exploration assets, and the abandonment of roads and water crossings. It is important that the mineral sector take advantage of opportunities to ensure that its interests are considered and accommodated as much as possible during development and implementation of the plans. At the same time, mineral sector clients can use these plans as an aid in developing exploration strategies that rely on access related to the forest management plan road network. The forest management plans include plans for new road access, access limitations, and road and water crossing construction and abandonment, as well as natural heritage and other stakeholders' values on the landscape.

Opportunities to influence the content of forest management plans include attending open houses, submitting comments about the options proposed in draft forest management plans, and through representing the mineral sector on local citizen's committees organized by Ministry of Natural Resources district offices. Completed plans for Ministry of Natural Resources regions are available for viewing during normal business hours at the Ministry's regional offices in South Porcupine, Thunder Bay, and Peterborough. Each of the Ministry's district offices also has copies of plans for its area available for viewing.

Although the *Crown Forest Sustainability Act* requires that the Ministry of Natural Resources notify claimholders whose properties may be affected by forestry activities included in the annual work schedule, the Ministry of Natural Resources does not have the addresses of claimholders on file. There has been some concern in recent years that the *Freedom of Information and Protection of Privacy Act* prohibits the Ministry of Northern Development and Mines from sharing address information with the Ministry of Natural Resources for the purpose of the sending the notifications.

During 2004, the Land Use Policy and Planning Coordinator worked with other branches of the Ministry of Northern Development and Mines to confirm that the *Freedom of Information and Protection of Privacy Act* includes provisions that allow the Ministry to share address information for the purposes of the notifications, and to prepare a draft protocol for compiling the address information in response to requests from the Ministry of Natural Resources.

The Land Use Policy and Planning Coordinator and northwest Regional Land Use Geologist also provided the Ministry of Natural Resources with comments on 2 drafts of the new forest management planning manual, which was developed in accordance with the requirements of the *Crown Forest Sustainability Act*. As a result of these comments, certain accommodations were made in consideration of mineral sector interests, language concerning mining lands was clarified, and a requirement was added for annual work schedules to include maps showing roads and water crossings scheduled for abandonment, rather than a simple description of the roads and water crossings.

NORTHWEST REGION FOREST MANAGEMENT PLANS

As of April 1, 2005, 22 of the 48 Sustainable Forest Licence forest management units in the province are located in the northwest Regional Land Use Geologist's region, which is roughly coincident with the Ministry of Natural Resources' Northwest Region. The forest management units are listed in Table 9 in chronological order according to the SFL plan period. The Ministry of Natural Resources district that leads the forest management planning process is listed for each forest management unit, along with the current status of the plan.

In 2004, 3 forest management plans were approved and implemented in the Northwest Region. Forest management plans are being finalized for 4 forest management units for approval in 2005. Plans are also being developed for 8 forest management units for implementation in 2006.

Table 9. List of forest management units in the northwest Regional Land Use Geologist's region (2005–2006).

FMU #	FMU Name	Plan Period	Status	Plan Review Date	MNR Lead District	Plan Status
260	Lake Nipigon Forest	2001 – 2021	SFL	2006	Nipigon	ITP
370	Black River Forest	2001 – 2021	SFL	2006	Wawa	ITP
178	Black Sturgeon Forest	2001 – 2021	SFL	2006	Nipigon	ITP
30	Spruce River Forest	2001 – 2021	SFL	2006	Thunder Bay	ITP
535	Dryden Forest	2001 – 2021	SFL	2006	Dryden	ITP
644	Kenora Forest	2001 – 2021	SFL	2006	Kenora	ITP
702	Lac Seul Forest	2001 – 2021	SFL	2006	Sioux Lookout	ITP
851	Pic River Ojibway Forest	2001 – 2021	SFL	2006	Nipigon	ITP
67	Big Pic Forest	2002 – 2022	SFL	2007	Wawa	In effect
175	Caribou Forest	2002 – 2022	SFL	2007	Sioux Lookout	In effect
405	Crossroute Forest	2002 – 2022	SFL	2007	Fort Frances	ITP
796	Lakehead Forest	2002 – 2022	SFL	2007	Thunder Bay	In effect
130	Wabigoon Forest	2003 – 2023	SFL	2008	Dryden	In effect
415	Ogoki Forest	2003 – 2023	SFL	2008	Nipigon	In effect
840	Red Lake Forest	2003 – 2023	SFL	2008	Red Lake	In effect
120	Trout Lake Forest	2004 – 2024	SFL	2009	Red Lake	CP
230	English River Forest	2004 – 2024	SFL	2009	Dryden	CP
490	Whiskey Jack Forest	2004 – 2024	SFL	2009	Kenora	CP
177	Dog River–Matawin Forest	2005 – 2025	SFL	2010	Thunder Bay	Stage 4
350	Kenogami Forest	2005 – 2025	SFL	2010	Nipigon	Stage 5
444	Armstrong Forest	2005 – 2025	SFL	2010	Thunder Bay	Stage 5
853	Sapawe Forest	2005 – 2025	SFL	2010	Fort Frances	Stage 5

Status:

- Forest management units are designated under the *Crown Forest Sustainability Act*, Section 7
- SFL – Sustainable Forest Licence
- CP – Contingency plan is in effect pending approval of the plan; ITP – Invitations to participate have been forwarded by MNR; In effect – Plan has been reviewed and adopted; Stage 4 – the new plan is at Stage 4 of plan review; Stage 5 – the new plan is at Stage 5 of plan review; and N/A – not applicable.
- Information (SFL Name, Status, Plan Period) current at date of list preparation.
- New forest management plans are normally implemented in April of the year listed as the "Plan Review Date". Planning generally starts 24 months prior to the implementation date.
- All management units effective as of April 1, 2005; plan status current as of February 18, 2005.

The northwest Regional Land Use Geologist was named as "plan advisor" to the 2005 northwest Forest Management planning teams, monitored the development of the 2005 forest management plans, and provided the planning teams with timely information and support relating to planning decisions that might affect the mineral sector. He also contacted Ministry of Natural Resources Area Foresters involved with 2006 forest management plans, and was appointed "plan advisor" with regard to mineral-related matters during plan development, and gave a presentation about the mining sequence and mineral sector interests to the Lake Nipigon Forest planning team.

The plans being developed for implementation in 2006 are listed, along with the Sustainable Forest Licence holder, in Table 10.

In addition to contributing to the planning process for forest management plans currently under development, the northwest Regional Land Use Geologist responded to various information requests and notifications. They included queries from mineral sector clients about using forest access roads, and notices from Ministry of Natural Resources concerning scheduled stream crossing abandonments included on the Sustainable Forest Licence holder's Annual

Work Schedule. The proposed abandonments were reviewed with respect to the presence or absence of high mineral potential lands and active mining claims, and feedback was provided to Ministry of Natural Resources.

Table 10. List of 2006 northwest forest management plans and their Sustainable Forest Licence holders.

Forest Management Plan	Sustainable Forest Licence Holder
Lake Nipigon Forest	Norampac Inc.
Black River Forest	Great West Timber Limited
Black Sturgeon Forest	Bowater Canadian Forest Products Inc.
Spruce River Forest	Abitibi Consolidated Company of Canada
Dryden Forest	Dryden Forest Management Company Limited
Kenora Forest	Weyerhaeuser Company Limited
Lac Seul Forest	McKenzie Forest Products Inc.
Pic River Ojibway Forest	Great West Timber Limited

Other work related to access included evaluating alternative closure strategies for the INCO Shebandowan bridge as part of the Shebandowan Lake Management Plan; facilitating discussions between a mineral sector client wanting a stream crossing to be maintained when the forest management plan indicated that it should be removed; and working with a junior mining company, a remote tourism outfitter and the Ministry of Natural Resources to resolve an issue concerning the use of a forest access road by the mining company.

NORTHEAST REGION FOREST MANAGEMENT PLANS

As of April 1, 2005, 22 of the 48 Sustainable Forest Licence forest management units in the province are located in the northeast Regional Land Use Geologist's region. This decrease from 23 forest management units in 2004 is due to the addition of the Wawa Forest to the Algoma Forest. The forest management units are listed in Table 11, in chronological order according to the SFL plan period. The Ministry of Natural Resources district that leads the forest management planning process is listed for each forest management unit, along with the current status of the plan.

In 2004, the forest management plans for 2 Sustainable Forest Licence holders (Magpie Forest and Nipissing Forest) and a Crown Forest (Temagami Forest) were approved and implemented in the Northeast Region. Forest management plans are being finalized for 7 forest management units for approval in 2005. Plans are also being developed for 6 forest management units for implementation in 2006.

Table 11. List of forest management units in the northeast Regional Land Use Geologist's region (2005–2006).

FMU #	FMU Name ([1] – new for 2005)	Plan Period	Status	Plan Review Date	MNR Lead District	Plan Status
370	Black River Forest	2001 – 2021	SFL	2006	Wawa	ITP
390	Nagagami Forest	2001 – 2021	SFL	2006	Wawa	ITP
765	Pineland–Martel Forest	2001 – 2021	dSFL/SFL	N/A / 2006	Chapleau	ITP
868	Shiningtree Forest	2001 – 2021	SFL	2006	Timmins	ITP
508	Superior Forest	2001 – 2021	SFL	2006	Chapleau	ITP
610	Timiskaming Forest	2001 – 2021	SFL	2006	Kirkland Lake	ITP
67	Big Pic Forest	2002 – 2022	SFL	2007	Wawa	In effect
601	Hearst Forest	2002 – 2022	SFL	2007	Hearst	In effect
930	Romeo–Malette Forest	2002 – 2022	SFL	2007	Timmins	In effect
375	Cochrane–Moose River	2003 – 2023	CR	N/A	Cochrane	In effect
150	Nighthawk Forest	2003 – 2023	SFL	2008	Timmins	In effect
60	White River Forest	2003 – 2023	SFL	2008	Wawa	In effect
565	Magpie Forest	2004 – 2024	SFL	2009	Wawa	In effect
754	Nipissing Forest	2004 – 2024	SFL	2009	North Bay	In effect
898	Temagami	2004 – 2024	CR	N/A	North Bay	In effect
615	Algoma Forest[1]	2005 – 2025	SFL	2010	Sault Ste. Marie	Stage 4
438	Gordon Cosens Forest	2005 – 2025	SFL	2010	Hearst	Stage 5

FMU #	FMU Name (' – new for 2005)	Plan Period	Status	Plan Review Date	MNR Lead District	Plan Status
12	Iroquois Falls Forest	2005 – 2025	SFL	2010	Cochrane	Stage 4
680	Northshore Forest	2005 – 2025	SFL	2010	Sault Ste. Marie	Stage 5
40	Smooth Rock Falls Forest	2005 – 2025	SFL	2010	Cochrane	Stage 5
210	Spanish Forest	2005 – 2025	SFL	2010	Sudbury	Stage 5
889	Sudbury Forest	2005 – 2025	SFL	2010	Sudbury	Stage 4
Status:						
- Forest management units are designated under the *Crown Forest Sustainability Act*, Section 7						
- SFL – Sustainable Forest Licence; CR – Crown-managed; dSFL – deemed SFL						
- ITP – Invitations to participate have been forwarded by MNR; In effect – Plan has been reviewed and adopted; Stage 4 – the new plan is at Stage 4 of plan review; Stage 5 – the new plan is at Stage 5 of plan review; and N/A – not applicable.						
- Information (SFL Name, Status, Plan Period) current at date of list preparation.						
- New forest management plans are normally implemented in April of the year listed as the "Plan Review Date". Planning generally starts 24 months prior to the implementation date.						
- All management units effective as of April 1, 2005; plan status current as of February 18, 2005.						
Planned April 1, 2005 Change:						
New FMU Name (FMU#)		Previous FMU Names (FMU#)				
Algoma Forest (615)		Algoma Forest (448) and Wawa Forest (949)				
Projected April 1, 2006 Change:						
New FMU Name (FMU#)		Previous FMU Names (FMU#)				
Timiskaming Forest (280)		Timiskaming Forest (610) and Shiningtree Forest (868)				

In northeastern Ontario, the Regional Land Use Geologist reviewed the approved Forest Management Plan for the Temagami Crown-managed forest management unit, released for public review in January 2004, and found that no comments were necessary from the Ministry of Northern Development and Mines' perspective. An application was submitted by members of the public, asking that the plan be "bumped up", or subjected to an individual environmental assessment. The Ministry of Environment subsequently denied this request.

The northeast Regional Land Use Geologist also monitored the development of the 2005 forest management plans, and provided the planning teams with timely information and support relating to planning decisions that might affect the mineral sector. He also contacted Ministry of Natural Resources Area Foresters involved with 2006 forest management plans, and was appointed "plan advisor" with regard to mineral-related matters during plan development.

He gave presentations about the mining sequence and mineral sector interests to the Nagagami and Black River forest management planning teams. The Land Use Policy and Planning Coordinator gave a presentation to the Timiskaming forest management planning team. In addition, the northeast Regional Land Use Geologist attended the Second Information Centre (public information session) for the Iroquois Falls, Smooth Rock Falls, and Sudbury forest management plans scheduled for implementation April 1, 2005, to act as a resource person in case of questions regarding mineral sector interests and the forest management planning process.

The plans being developed for implementation in 2006 are listed, along with the Sustainable Forest Licence holder, in Table 12.

Table 12. List of 2006 northeast forest management plans and their Sustainable Forest Licence holders.

Forest Management Plan	Sustainable Forest Licence Holder
Black River Forest	Great West Timber Limited
Nagagami Forest	Nagagami Forest Management Ltd.
Pineland–Martel Forest	Pineland Timber Company Limited
Shiningtree Forest	Shining Tree Forest Inc.
Superior Forest	Tembec Industries Inc.
Timiskaming Forest	Timiskaming Forest Alliance Inc.

Other work linked to forestry interests in the northeast Region was related to a request made by Tembec Inc. to the Ministry of Transportation, asking the ministry to designate the entire length of Highway 652 (Detour Lake Road) as an Industrial Road in accordance with Part VI, Section 43 of the *Public Transportation and Highway Improvement Act*. The company sent out a questionnaire seeking public opinion on the proposal, which would have made the road a "private" primary forest access road, and allowed the company to haul wide loads along the route – while also making it responsible for the upkeep of the route.

The questionnaire initiated by Tembec Inc. to gauge public opinion regarding the suggested re-designation of the road was circulated to interested parties in the exploration and mining communities in Northeastern Ontario by the northeast Regional Land Geologist. He also provided comments on behalf of the Ministry of Northern Development and Mines.

The company subsequently withdrew its request for permission when studies suggested that the bridges on Highway 652 might not withstand the large loads being planned.

With the assistance of the District Geologist for the Sault Ste. Marie District, the northeast Regional Land Use Geologist also gave a presentation at the 2004 Environmental and Safety Forum sponsored by the Sault Area Forestry Safety Committee and Clergue Forest Management Inc. in Sault Ste. Marie. The presentation was entitled "Working Around Mining Claims", and included an overview of the exploration sequence, mineral industry values on the land, and a review of current exploration activities in the Sault Ste. Marie and Wawa areas.

SOUTHERN REGION FOREST MANAGEMENT PLANS

As of April 1, 2005, 6 of the 48 Sustainable Forest Licence forest management units in the province are located in the southern Regional Land Use Geologist's area. Two of the 6 are atypical. One is the Algonquin Park Forest, managed by the Algonquin Forest Authority, which is an Ontario Crown Agency charged with the responsibility for sustainable forest management in Algonquin Provincial Park. The other is the Southern Ontario Forest Management Unit. It is outside of the "Area of the Undertaking" covered by the *Crown Forest Sustainability Act*, and is primarily made up of private land.

The locations of the forest management units are illustrated in Figure 1. They are also listed in Table 13, in chronological order according to the forest management plan period. The Ministry of Natural Resources district that leads the forest management planning process is listed for each forest management unit, along with the current status of the plan. The last column of Table 13 lists the current status of the Forest Management Plan.

Table 13. List of forest management units in the southern Regional Land Use Geologist's region (2005–2006).

FMU #	FMU Name	Plan Period	Status	Plan Review Date	MNR Lead District	Plan Status
220	Bancroft–Minden Forest	2001 – 2021	SFL	2006	Bancroft	ITP
140	Mazinaw–Lanark Forest	2001 – 2021	SFL	2006	Bancroft	ITP
780	Ottawa Valley Forest	2001 – 2021	SFL	2006	Pembroke	ITP
360	French–Severn Forest	2004 – 2024	SFL	2009	Parry Sound	In effect
451	Algonquin Park Forest	2005 – 2025	AFA	2010	Algonquin Park	Stage 4
990	Southern Ontario			n/a	Various	N/A

Status:

- Forest management units are designated under the *Crown Forest Sustainability Act*, Section 7
- SFL – Sustainable Forest Licence; AFA – Algonquin Forest Authority
- ITP – Invitations to participate have been forwarded by MNR; In effect – Plan has been reviewed and adopted; Stage 4 – the new plan is at Stage 4 of plan review; and N/A – not applicable.
- Information (SFL Name, Status, Plan Period) current at date of list preparation.
- New forest management plans are normally implemented in April of the year listed as the "Plan Review Date". Planning generally starts 24 months prior to the implementation date.
- All management units effective as of April 1, 2005; plan status current as of February 18, 2005.

In the southern Regional Land Use Geologist's area, 2005 will be a busy year in the forest management planning cycle. The Algonquin Park Forest plan, currently at Stage 4 in the planning process, should be implemented on April 1, 2005, and Invitations to Participate have been sent out to mark the start of the planning process for the other 3 Sustainable Forest Licence holders in the area. They are listed in Table 14, along with the names of their respective forest management units.

The French–Severn plan is already in effect and is not scheduled for review again until 2009. Most of the land in Area 990 is privately held, so it does not have an overall Forest Management Plan.

Table 14. List of 2006 southern forest management plans and their Sustainable Forest Licence holders.

Forest Management Plan	Sustainable Forest Licence Holder
Bancroft–Minden Forest	Bancroft Minden Forest Company Inc.
Mazinaw–Lanark Forest	Mazinaw–Lanark Forest Inc.
Ottawa Valley Forest	Ottawa Valley Forest Inc.

The southern Regional Land Use Geologist has been working to promote mineral resource values to forest management plan authors, and to raise awareness within the mineral sector of opportunities to contribute to the development of plans through the planning process. This year, members of the Southern Ontario Prospectors Association have become involved in the forest management planning process, and in fact, the President has been asked to write the geology section for the Mazinaw–Lanark forest management plan.

An issue involving the French–Severn forest management planning area occurred over the course of the year. The southern Regional Land Use Geologist made a presentation to the Ministry of Natural Resources Local Citizen's Committee, followed by a field visit to the affected area where the issue was resolved.

Northern Boreal Initiative

The Ministry of Natural Resources established the Northern Boreal Initiative in 2001 to address the expressed interest of several northern First Nation communities and the province in new, sustainable commercial forestry opportunities. These opportunities will expand the area where forestry activities may occur, and can lead to First Nation communities being the holder of new Sustainable Forest Licences. The areas in question are north of the area described as the Area of the Undertaking for the Class Environmental Assessment for Timber Management on Crown lands in Ontario.

The Northern Boreal Initiative aims to provide several northern First Nation communities with the opportunity to take a leading role in the development of new, sustainable commercial forestry opportunities, including working collaboratively with the Ministry of Natural Resources on planning for such opportunities. It also supports the shared goal of the First Nation communities and the Ministry of Natural Resources of sustainable development of natural resources in northern Ontario, as well as the shared objective of ecosystem sustainability.

Steps involved in the Northern Boreal Initiative include land use planning, information management, environmental assessment, forest management planning and business planning. Ontario's commitment to the Northern Boreal Initiative is founded in the 1999 Ontario Forest Accord, which provides support for orderly northern development initiatives; and the Building Aboriginal Economies Strategy, which encourages partnership arrangements such as the Northern Boreal Initiative to assist First Nations with economic development.

In conjunction with any new timber harvesting (i.e., increase in fibre capacity that takes place) the Room to Grow sharing agreement of the Ontario Forest Accord requires a concomitant increase in protected area space. The Northern Boreal Initiative Mineral Sector Working Group seeks to ensure that the mineral potential of candidate protected areas is understood and considered as land use planning decisions are made. The Provincially Significant Mineral Potential mineral resource assessment methodology and up-to-date claim maps are being used in the process of selecting potential new protected areas.

The approach to provide strategic direction for lands and resources in areas that are part of the Northern Boreal Initiative is "Community-based Land Use Planning". It will consider forestry as one of many interests, allowing

communities to address and find a balance among protection, conservation, traditional and livelihood uses, and development. The described approach encompasses 3 planning scales:

- community-centred,
- landscape-scale, and
- provincial context.

Outcomes from the Northern Boreal Initiative will result in an expansion of the portion of Ontario covered by an approved land use strategy.

NORTHERN BOREAL INITIATIVE PROJECTS

Four First Nation communities are currently actively involved in the Northern Boreal Initiative planning process, with Pikangikum and its surrounding Whitefeather Forest, located north of Red Lake, being most advanced.

Pikangikum

The northwest Regional Land Use Geologist has contributed to Pikangikum's land use planning process since its inception. In 2004, he attended a number of meetings with representatives of the Ministry of Natural Resources, Taiga Consultants, and Elders from the Pikangikum First Nation to review the progress of the land use planning process. He also provided information and feedback to them on subjects of interest, including the mineral exploration and development matrix being developed for the land use plan. The northwest Regional Land Use Geologist facilitated the completion of a mineral resource assessment for the Whitefeather Forest and adjacent lands, and its verification with the Red Lake District Geologist. He later presented information regarding the bedrock geology of the area and its mineral potential to the planning team.

The northwest Regional Land Use Geologist also used integrated data from the Ministry of Natural Resources natural heritage values maps and the mineral resource assessment maps to demonstrate the potential impact of candidates for new protected areas on future mineral exploration and development within the Whitefeather Forest. In addition, he acted as a liaison with the mineral sector to ensure that related associations and company representatives were invited to an open house arranged to showcase the Whitefeather Forest planning process, and gave a presentation at the Mineral Sector Forum held during the open house.

All of the natural and cultural heritage values identified, including the mineral values, are being considered together as the parties determine the best option for a protected area strategy for the new Whitefeather Forest. The principle tenet of "community-based land use planning" is that the First Nation will drive the planning decisions. The northwest Regional Land Use Geologist has stressed – and First Nations recognize – that lands with high mineral potential are a possible future economic driver for the community. He also pointed this out to the mineral sector when concerns were expressed that the Northern Boreal Initiative was simply a disguise for a project to create new protected areas.

Mishkeegogamang and Eabametoong

The communities of Mishkeegogamang, south of Pickle Lake, and Eabametoong, east of Pickle Lake, have also begun a Northern Boreal Initiative project. In 2004, the northwest Regional Land Use Geologist provided mineral-related background information to enhance the information available in the communities' background planning document.

Moose Cree

The community of Moose Cree, south of Moosonee, has also embarked on a process to prepare a community-based land use plan. A consulting group has been retained to prepare background documentation. Part of the intent of that land use plan will be to develop a protocol for mineral development within their traditional territory.

Other Crown Land Planning Initiatives

In addition to the activities outlined above, the Land Use Policy and Planning Coordinator and Regional Land Use Geologists were involved in a number of other initiatives linked to Crown land use planning matters and communications initiatives during the year.

The work included responding to requests submitted subject to the provisions of the *Freedom of Information and Protection of Privacy Act* and the Environmental Bill of Rights, and preparing reports, slide sets, briefing materials, etc., for audiences within and outside of the Ministry of Northern Development and Mines.

It also included monitoring items of interest related to land use on behalf of the mineral sector, as announced on the Environmental Registry and elsewhere, and advising representatives of the local associations when such items were identified. These items included draft regulations and legislation developed by other ministries, and proposals made by private sector interests that might constrain access to, or the availability of, areas of high mineral potential for exploration and development. Where appropriate, these initiatives were reviewed, and options for avoiding impacts on the mineral sector were supplied to those working on the plans in question.

CROWN LAND USE ATLAS

During 2002, the Ministry of Natural Resources made a draft of its new Crown Land Use Atlas and associated land use policies available for public review and comment. The atlas covers the "Area of the Undertaking" as identified under the *Crown Forest Sustainability Act*, an area roughly co-incident with those portions of Ontario south of the 51st parallel that are underlain by Precambrian rocks. The Ministry of Natural Resources plans to extend the area covered by the atlas in the future.

The land use policies included in the atlas were originally laid out in:

- Ministry of Natural Resources District Land Use Guidelines of 1983;
- area-specific land use plans such as the Madawaska Highlands Land Use Plan (released in 1997); and
- the Ontario's Living Legacy land use strategy.

Following the public review period, changes were made to accommodate the feedback received and the atlas was adopted as the official source of area-specific land use policies for the area it covers. The atlas is available on-line at:

http://crownlanduseatlas.mnr.gov.on.ca/

Since the Land Use Atlas is the authoritative source of area-specific land use direction under the *Public Lands Act* for Crown lands in the area it covers, explorationists are strongly advised to consult it to determine land use policies for their areas of interest in case some of those policies may influence or constrain their plans for exploration and/or development. Area-specific policies in the Land Use Atlas include controls on existing access routes, restrictions on new access, and prohibitions on new quarries in certain general use areas.

The Regional Land Use Geologists monitored proposed changes to the Land Use Atlas through postings on the Environmental Registry in 2004, and provided comments on changes of concern. The proposed changes involved adjustments to the boundaries of designated areas, rather than changes to the allowed activities within areas designated in the atlas.

REVIEW OF PROTECTED AREAS LEGISLATION

In 2004, the Ministry of Natural Resources initiated a review of the legislation governing protected areas in the province. These items include the *Provincial Parks Act*, which governs parks; *Public Lands Act* Regulation 805/94, which governs conservation reserves; and the *Wilderness Areas Act*, which governs a few small wilderness areas.

The Ministry of Natural Resources took several steps to gain public input into this review. It:

- outlined a series of key legislative proposals as a basis for the review;
- made a discussion document available for review and comment electronically through the Environmental Registry and the Ministry of Natural Resources and Ontario Parks web sites;
- provided the opportunity for people to e-mail or mail in comments and suggestions;
- met with representatives of stakeholder groups;
- met with provincial treaty organizations and invited input from Aboriginal communities; and
- held public open houses in 9 communities across Ontario, including Thunder Bay, Timmins, North Bay, Sault Ste. Marie, Sudbury, Huntsville, Ottawa, London, and Toronto.

The ministry is seeking to update the legislation and strengthen the protection of natural and cultural heritage features once the review is completed. The following objectives, which were reflected in the legislative proposals outlined as a basis for the review, support this goal:

- recognize that ecological integrity is of primary importance, while recognizing that compatible activities can occur where appropriate;
- include in the legislation policies that support sound management of protected areas and promote protection of ecological integrity; and
- include in the legislation measures that will enhance transparency and public accountability, such as mandatory reporting on the state of protected areas.

The Land Use Policy and Planning Coordinator worked with the Regional Land Use Geologists to ensure that mineral sector organizations and their members were aware of the legislative review and the opportunity to comment on the draft legislative proposals. They also contributed to comments on the legislative proposals that were submitted to the Ministry of Natural Resources on behalf of the Ministry of Northern Development and Mines.

The Ministry of Natural Resources is currently reviewing the comments received through the public review period, and plans to provide a report of the of this analysis to the Ontario Parks Advisory Board and the Minister of Natural Resources. Independent recommendations will also be presented directly to the Minister of Natural Resources by the Ontario Parks Advisory Board before the new legislation is drafted.

As a complement to this work, the Land Use Policy and Planning Coordinator submitted final comments to the Ministry of Environment during 2004 regarding the Ministry of Natural Resources' proposed Class Environmental Assessment on Parks and Conservation Reserves. The final comments were with regard to the Ministry of Natural Resources' proposed response to concerns expressed earlier by Ministry of Northern Development and Mines. The Class Environmental Assessment was approved in September 2004. Although it does not have an expiry date, the Ministry of Natural Resources is required to undertake a review of the Class Environmental Assessment every 5 years, in accordance with current Ministry of the Environment practice.

ONTARIO BIODIVERSITY STRATEGY

The Ministry of Natural Resources is leading the development of a biodiversity strategy for Ontario. The intent of the strategy is to conserve Ontario's biodiversity and provide for the sustainable use of the province's biological resources. The strategy will address Ontario's commitments under the Canadian Biodiversity Strategy.

The strategy is being developed under tight timelines, in partnership with partner ministries, other government agencies, First Nations, conservation groups, the agriculture and other sectors, scientists, industry and the public. Initial meetings to announce the plan to develop the strategy were held with partner ministries and representatives of sectoral interest groups, including the Ontario Prospectors Association and the Ontario Mining Association, in the late fall and writing teams and reviewers were identified to address a number of subject areas. The Land Use Policy and Planning Coordinator is a member of one of the writing teams, and the southern Regional Land Use Geologist is a reviewer of this important strategy.

Two workshops to address the development of the Ontario Biodiversity Strategy were held in early 2005, and a first draft of the proposed policy was posted for public review on the Ontario Biodiversity Strategy on March 1, 2005. It is anticipated that a draft will be posted on the Environmental Registry for public review and comment by April 1, 2005. The intent is to have a final strategy ready for implementation in June 2005. The strategy will ultimately provide the context for government, stakeholder and public initiatives relating to protected areas, and sustainable natural resource management, stewardship, and conservation.

As a complement to the Ontario Biodiversity Strategy, the Ministry of Natural Resources will release a report that documents Ontario's progress in implementing the Canadian Biodiversity Strategy since 1996. Stakeholders, partner ministries, and other levels of government have contributed to the report by supplying information about initiatives taken since 1996 in support of biodiversity. The Land Use Policy and Planning Coordinator was the contact person for the Ministry of Northern Development and Mines' contribution to this report, and gathered information from various sections and branches across the ministry about initiatives that have been undertaken that help sustain biodiversity.

RENEWABLE ENERGY INITIATIVES

The Ontario government is committed to generating at least 5% of its electricity from renewable sources by 2010. In support of this goal, it has been promoting new wind power and hydroelectric initiatives, and releasing Crown land sites for developments to increase the amount of energy coming from renewable sources by 1350 MW by 2007.

As a result of these initiatives, a number of areas were withdrawn from staking in 2004 while applicants assessed the sites' merits as locations for wind power generation. The Regional Land Use Geologists discussed the withdrawals with Ministry of Natural Resources representatives, in order to be able to respond to queries from mineral sector clients about the purpose and duration of the withdrawals.

The Regional Land Use Geologists also attended open houses linked to the development of a new policy for the generation of electricity from water power in the province. Ministry of Natural Resources accepted expressions of interest in identified water power sites in 2004, and applications for new sites until March 9, 2005. It is expected that these applications will result in some areas being withdrawn from staking while feasibility studies are completed.

TEMAGAMI INTEGRATED MANAGEMENT PLAN

In 2004, the Ministry of Natural Resources initiated an "integrated management planning" project for 5 provincial parks, 8 conservation reserves, and intervening areas of Crown land in the Temagami area. The planning process will also result in a Crown land recreation plan, developed to address specific management issues related to recreational use of Crown land within the boundary of the Temagami Land Use Planning Area. This work is guided by directions for land use in the approved Temagami Land Use Plan.

At present, the Ministry of Natural Resources is preparing a Background Information publication for public distribution. It will outline opportunities for public input throughout the planning process, and be useful to anyone interested in becoming involved in this planning project. Anyone interested in being included on the mailing list for this publication can send an e-mail request to:

TIP@mnr.gov.on.ca

The Land Use Policy and Planning Coordinator participated in a workshop regarding the recreational concerns in 2004, and has ensured that Ministry of Natural Resources is aware of the Ministry of Northern Development and Mines' interest in this project and ongoing concern that strategies for managing recreational use of Crown land in the area do not constrain access for mineral exploration and development.

REVIEW OF WITHDRAWAL ORDERS

The southern Regional Land Use Geologist started a project to review all southern Ontario withdrawals. In November 2003, the Regional Land Use Geologist met with Ministry of Natural Resources planning staff to begin the review of some of these withdrawals, to see which withdrawals are redundant or no longer needed. In 2004, the

withdrawal list was expanded with the help of the land use group's Summer Experience Student to include the entire province.

The list of withdrawals was shared with the Mining Lands Section, which was conducting its own review in 2004 to determine whether there were areas that had been withdrawn, but weren't shown as being withdrawn on CLAIMaps III. The results of the two reviews will ultimately be combined, and Mining Lands Section will review redundant withdrawals with the goal of re-opening them for staking.

CROWN LAND CAMPING

Because of concerns in northeastern Ontario about residents who were setting up camp at desirable Crown land locations and staying throughout the summer, thereby effectively prohibiting others from gaining access to the sites, the Ministry of Natural Resources recently revised its policy on Crown land camping. Although residents are still allowed to engage in recreational camping for an unlimited period of time on Crown land, there is now a provision restricting their use of any one location to a 21-day period. There is a minimum move of 100 m between campsites for campers who wish to stay longer than 21 days.

Note, however, that this policy does not impact mineral sector clients working on their own mining claims, since Section 50 (2) of the *Mining Act* provides for the holder of a mining claim the right to enter upon, use and occupy such part or parts thereof as are necessary for the purpose of prospecting and the efficient exploration, development and operation of the mines, minerals and mining rights therein.

ALL-TERRAIN VEHICLE AND RECREATIONAL TRAILS

Late in 2004, the Ministry of Natural Resources and the Ministry of Tourism and Recreation initiated programs to assess the network of all-terrain vehicle trails in Ontario, and implement policies regarding their use. The southern Regional Land Use Geologist has been involved with both of these initiatives to ensure that access to mining land fabric is guaranteed, and that mining land fabric is not affected by new trails or people using those trails.

These projects are continuing in 2005, and the southern Regional Land Use Geologist will continue to be involved with them. The Ministry of Northern Development and Mines' goal is to ensure ongoing access to trail systems for explorationists in much the same way that ongoing access to recreational snowmobile trails has been assured for mineral sector workers.

LOCAL CITIZENS' COMMITTEES

Ministry of Natural Resources districts have "Local Citizens' Committees" to assist and advise them with regard to Crown land use planning and management. Most committees include representation from various sectoral and private interest groups, including forestry, tourism, and environmental organizations. There is representation from the mineral sector on some committees, but not all.

The Regional Land Use Geologists have been working to recruit, train and offer ongoing support to new mineral sector representatives (prospectors, geologists, etc.) on these committees, since mineral sector representatives can act as the voice of the mineral sector during discussions of various aspects of Crown land planning and management, including forest management plans, Annual Work Schedules, and access controls. Mineral sector representatives are able to point out problematic situations as they arise, and can contact the appropriate Regional Land Use Geologist when further information and/or support in resolving problems is needed. At the same time, they learn about plans for Crown land use management in their areas of interest, and build networks with Ministry of Natural Resources staff and other workers active in those areas.

MUNICIPAL PLANNING

Development on private land in Ontario is subject to the provisions of the *Planning Act* and the Provincial Policy Statement, enacted under Section 3 of the *Planning Act*, and is managed by the Ministry of Municipal Affairs and Housing. The Land Use Policy and Planning Coordinator and the Regional Land Use Geologists work closely with planners from Ministry of Municipal Affairs and Housing, and with planning consultants, as one of the "partner

ministries" that contribute to the One-Window municipal planning process. This work helps ensure that provisions of the Provincial Policy Statement relating to the mineral sector are adhered to when planning decisions are made, and that responses from the Ministry of Municipal Affairs and Housing to planning applications are consistent province wide.

In support of the One-Window planning process, the Land Use Policy and Planning Coordinator acts as the Ministry of Northern Development and Mines' representative on the Planning System Committee. The committee is an inter-ministerial working group including representatives from the ministries of Municipal Affairs and Housing, Northern Development and Mines, Natural Resources, Environment, Culture, Transportation, and Agriculture and Food, and Conservation Ontario (the network of 36 conservation authorities in Ontario).

Ultimately, the committee's work ensures that provincial interests are considered during municipal planning; that the *Planning Act* is implemented efficiently and effectively; and that planners from ministries and municipalities across the province are aware of sources of information and advice that are available to them in making their planning decisions.

Municipal Planning Initiatives

The Land Use Policy and Planning Coordinator and Regional Land Use Geologists contributed to municipal planning and training across the province in 2004. Their work was aimed at ensuring that municipal plans give appropriate consideration and accommodation to known mineral resources and areas of high mineral potential, and to public health and safety matters associated with mining-related hazards. The Mines Group's Abandoned Mines Information System database is used to help municipal governments identify mine hazards to protect public health and safety. The more than 5000 sites identified in the database range from exploration trenches through multi-hazard abandoned mine locations to fully rehabilitated decommissioned mines.

In 2004, the northwest Regional Land Use Geologist reviewed and commented on 5 Official Plans and 1 Official Plan Amendment for various municipalities, along with 17 consents (severance applications) 4 draft plans of subdivision, and the Township of Atikokan's proposed hazard land designation in the Steep Rock area. He also worked with staff from the Ministry of Municipal Affairs and Housing other partner ministries to resolve planning-related issues in several other areas.

The northwest Regional Land Use Geologist also supported the development of 4 additional Official Plans during 2004. For one community, he provided information about abandoned mine hazards. For 2 others, he hosted planning team meetings to discuss mineral-related planning issues including mineral potential, mining lands, and abandoned mine hazards. The northwest Regional Land Use Geologist and representatives of the Ministry of Northern Development and Mines' Mines Group supplied comments concerning mineral-related planning issues jointly to the planning consultants for the fourth community.

The northeast Regional Land Use Geologist reviewed 2 draft Official Plans, and made extensive recommendations for changes to the draft Official Plan for a historic mining community that included only cursory mention of mineral exploration and mining. He also worked with representatives of the Mines Group to provide updated information concerning abandoned mine hazards in support of a new draft zoning bylaw for the Municipality of Cobalt. In addition, the northeast Regional Land Use Geologist reviewed 3 applications for consents (severances) and 6 notices of consents.

One area within the northeast Regional Land Use Geologist's region drew particular public scrutiny in 2004 when high-profile environmental activists carried out a campaign to oppose a proposed bedrock aggregate quarry being planned for an area within the Township of Michipicoten. The area in question is adjacent to the docks used to support the former iron mining activities at Wawa. It is also within the area designated as the Great Lakes Heritage Coast Signature Site by the Ontario's Living Legacy land use strategy.

Since the area was on private land that was not designated under the *Aggregate Resources Act*, the developer was not obliged to seek a licence to operate. The only permitting requirement was for the area to be recognized by the municipal zoning bylaw as a site where bedrock aggregate extraction could take place. Opponents to the proposed quarry petitioned the Minister of Environment to require an environmental assessment of the proposed development.

After a review of the situation, however, the government's response was to designate the area in question and 12 adjoining townships under the *Aggregate Resources Act*, thereby requiring the development to be licenced and in compliance with the provisions of the act while ensuring the environmental protection sought by the petitioners.

The involvement of the northeast Regional Land Use Geologist, Land Use Policy and Planning Coordinator, and other staff of the Resident Geologist Program in resolving this matter included supplying technical and planning-related information to the Minister of Environment, Ministry of Municipal Affairs and Housing, and the municipal government.

The southern Regional Land Use Geologist also attended to a wide range of municipal planning-related matters in 2004. He reviewed 6 draft and 3 final Official Plans, as well as other documents during 2004. Table 15 provides a summary of the planning instruments reviewed.

Table 15. Southern region planning documents reviewed during 2004.

Planning Documents/Instruments	Number
Draft Official Plan	6
Final Official Plan	3
Official Plan Data Requests	6
Official Plan 5-Year Reviews	5
Official Plan Background Studies	2
Official Plan Amendments	2
Niagara Escarpment Plan Amendments	4
Waste Management Reviews	2
Transportation Reviews	6

PLANNING-RELATED TRAINING AND EVENTS

Planning-related training for partner ministry staff members had a hiatus in 2004, pending the announcement of the revised Provincial Policy Statement and other planning directives. The Land Use Policy and Planning Coordinator contributed to plans for renewed training in 2005 in late 2004, however, as the release date for the aforementioned directives approached.

Planning-related training for municipal planners and planning consultants continued during 2004, however. The northwest Regional Land Use Geologist gave a presentation linking mineral-related interests to planning to the Northwest Ontario Municipal Planning Forum in Thunder Bay, and the Land Use Policy and Planning Coordinator provided a display for the Northeast Ontario Municipal Planning Forum in Sudbury. The Land Use Policy and Planning Coordinator also hosted a display booth at the annual Federation of Northern Ontario Municipalities.

The presentation and displays highlighted the Ministry of Northern Development and Mines' interests in municipal planning across the province, as well as the resources available to planners from the ministry to help them comply with the provisions of the Provincial Policy Statement of the *Planning Act*. Until they attend these sessions, many planners are not fully aware that the mandate of the ministry's Mines and Minerals Division extends across the province, and that the division produces data that can support their work.

PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement contains provisions that act as a *de facto* mineral policy in Ontario. The provisions are intended to ensure that:

- minerals, mineral aggregate and petroleum resources are protected for long-term use;
- mineral and mineral aggregate mining operations and petroleum resource operations are protected from development and activities that would preclude or hinder their expansion or continued use or be incompatible for reasons of public health, public safety or environmental impact; and

- development and activities that would preclude or hinder the establishment of new operations or access to resources areas are limited in areas on or adjacent to known mineral deposits, mineral aggregate resources or petroleum resources, or areas of significant mineral and petroleum potential.

When the Provincial Policy Statement was revised in 1996, a direction that it be reviewed every 5 years and changed if needed was established. Accordingly, a review of the Provincial Policy Statement was begun in 2001. The review assessed whether – or not – the Provincial Policy Statement was effective in ensuring that the planning directions advocated by the province were being followed. The Land Use Policy and Planning Coordinator and Regional Land Use Geologists were involved along with representatives of other partner ministries in this assessment process. In addition, representatives of the public were invited to comment on whether or not the Provincial Policy Statement should be changed.

The decision made following these reviews was that changes were needed. A process was established whereby representatives of sectoral interests were invited to recommend changes to the various provisions in the Provincial Policy Statement. Representatives of the Ontario Prospectors Association, the Ontario Mining Association, and the Aggregate Producers Association of Ontario took part in these discussions along with the Land Use Policy and Planning Coordinator during 2002.

During 2003, the Ministry of Municipal Affairs and Housing worked through the various recommendations made during the review process, and drafted revised provisions for the Provincial Policy Statement. The proposed revisions were circulated to partner ministries for review and comment. The Land Use Policy and Planning Coordinator and representatives of the Ministry of Northern Development and Mines Corporate Policy Secretariat reviewed the proposed revisions and provided comments to the project team.

After reviewing the comments from all partner ministries, the Ministry of Municipal Affairs and Housing released a draft revision of the Provincial Policy Statement in mid-2004. At the time of the release, the ministry also organized a series of public information sessions across the province to allow the public at large to review and comment on the proposed changes. The ministry also held focused workshops for invited guests representing various sectoral interests and partner ministries to discuss the proposed changes in more depth. The Land Use Policy and Planning Coordinator and Regional Land Use Geologists attended the public information sessions and workshops, and acted as "subject matter experts" when discussion points arose needing clarification.

Further changes to the Provincial Policy Statement were proposed as a result of the public information sessions and workshops. The Land Use Policy and Planning Coordinator and representatives of the Ministry of Northern Development and Mines Corporate Policy Secretariat reviewed the new revisions and provided additional comments to the project team.

Although most of the proposed changes would have limited impacts on the mineral sector, there was one proposed change that would have essentially prohibited mineral development in provincially significant wetlands in central Ontario, regardless of whether the development would have had any effect on the wetland or not. This provision was ultimately addressed in the final version of the revised Provincial Policy Statement, which was announced on February 21, 2005 and went into effect on March 1, 2005. This version is available on-line at:

http://www.mah.gov.on.ca/userfiles/HTML/nts_1_23137_1.html#2.4

Now, the provisions that apply to advanced exploration and mining developments in areas of provincially significant wetlands are the same regardless of where the activity is located on the Precambrian Shield, the James Bay Lowlands, or the Hudson Bay Lowlands.

OTHER PLANNING INITIATIVES

There were a number of other important land use planning initiatives in Ontario during 2004. Some were focused specifically in southern Ontario, such as the *Greenbelt Act* and the Growth Management initiative, while others, such as the Source Water Protection initiative, were pan-provincial.

Greenbelt Act

In late 2003, the Minister of Municipal Affairs and Housing froze development in a zone surrounding the Greater Toronto Area. The plan was to introduce new legislation that would help to protect important agricultural and environmentally sensitive areas from the pressures of urban sprawl and development.

The Greenbelt Plan was introduced in early 2004 to fulfill this objective. The southern Regional Land Use Geologist reviewed and commented on the plan and the associated documents, with the intent of ensuring that new planning policies would not restrict the aggregate and mineral resource industries.

In October 2004, the government proposed the *Greenbelt Act*. If passed, it will create a greenbelt protecting about 400 000 ha of environmentally sensitive and agricultural land in the Golden Horseshoe from urban development and sprawl. It will also protect land included in the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan.

The proposed legislation authorizes the government to designate a Greenbelt Area and establish a Greenbelt Plan. It also sets out the main elements and objectives to be addressed in the plan, requires planning decisions to conform to the Greenbelt Plan, and addresses development applications in process prior to the date of introduction of the proposed *Greenbelt Act*.

A Greenbelt Advisory Council may be appointed by the minister, pursuant to the proposed legislation, to give advice to the minister and perform other specified functions, which could include ensuring the objectives of the Greenbelt are maintained and promoted.

Growth Management

Different areas of Ontario face different challenges. Some regions, like the Greater Golden Horseshoe – where the population is expected to increase by 3.7 million in the next 25 years – are currently struggling with the impacts of rapid growth. This incredible growth will require proper planning, along with new and renewed infrastructure to provide services to the increased population.

The Ministry of Public Infrastructure Renewal has the overall responsibility for fostering and implementing the government's long-term plan for growth. It has mandated the Ontario Growth Secretariat, a branch within the ministry, to take the lead with regard to such projects within the ministry. It initiated a project to help define where growth would occur within the Greater Golden Horseshoe, and released a draft growth plan for the area on February 25 as a basis for discussion. The draft growth plan was intended to generate further input from key stakeholders, including municipalities, business, and environmental and other sectors, as a step towards a final draft growth plan for the Greater Golden Horseshoe. This would be the first growth plan developed under the proposed *Places to Grow Act*, which was introduced in October 2004.

The southern Regional Land Use Geologist was the Ministry of Northern Development and Mines' representative on the Growth Management Committee. The ministry participated in order to ensure that aggregate and mineral resources were identified and given full consideration as part of this initiative. This project is expected to continue in 2005.

Source Water Protection

The Walkerton report prepared by Justice O'Connor in response to the tainted municipal water that killed 7 people and made thousands ill in 2000 made 121 recommendations for change. The government has already responded to many of them, and is currently working on "source protection", which was identified as a missing element in ensuring that Ontario's water is safe from source to tap.

In February 2004, the Ministry of Environment issued a "White Paper" on source protection. The White Paper described the proposed planning components of source protection legislation, including the process for preparing plans, roles and responsibilities, and the associated approval process.

The White Paper also raised the questions of strengthening the rules surrounding water-taking permits, and requiring permit holders to pay for the water they take.

In March 2004, the Ministry of Environment held a series of meetings to consult on the White Paper with regional and local source-protection stakeholders and experts. Meetings were held in London, Kitchener–Waterloo, Peterborough, Kingston, Ottawa, Thunder Bay, Sudbury, and Toronto. The White Paper was also posted on the Environmental Registry, and interested parties were invited to submit comments on the various proposals it contained.

Based on the results of the various consultations, recommendations for watershed-based source protection were released for public review in November 2004.

The Ministry of the Environment has proposed a plan to map water resources within the major watersheds throughout Ontario. Once the resources have been mapped, they can be properly protected. The southern Regional Land Use Geologist reviewed the plan and associated documents, and submitted comments to the Ministry of Environment through the Ministry of Northern Development and Mines' Corporate Policy Secretariat. The mineral sector needs to be cognizant of this initiative, as well as the affiliated documents dealing with water taking and permitting.

FIRST NATIONS

The Mines and Minerals Division of the Ministry of Northern Development and Mines is working to develop relationships and local contacts with First Nation communities, and to provide them with information about mineral exploration and development. This relationship building will assist mineral sector clients when they notify communities of pending activities on First Nations' traditional lands.

There are approximately 126 First Nation reserves or communities in the province. Of these, 63 are in the northwest Regional Land Use Geologist's region, 29 are in the northeast Regional Land Use Geologist's region, and 34 are in the southern Regional Land Use Geologist's region. Throughout the year, members of the land use group had various interactions with representatives of these groups.

Reserve Lands

The land use group works with the Ontario Native Affairs Secretariat, as well as planning consultants, in several ways to help resolve native land claims, and implement adjustments to the boundaries of Indian Reserves. Members of the land use group provide negotiating teams with background information on the mineral potential and past mineral exploration and development activity in areas of interest. They also assist with reviews of Crown land being considered by the Province of Ontario for addition to reserves, and private lands being purchased by the federal government for the same purpose.

In 2004, the northwest Regional Land Use Geologist helped to resolve an issue that arose when mineral sector workers accidentally overstaked part of an Indian Reserve. He also provided comments on the proposed addition of Crown lands to the Kasabonika Lake and Long Lake Indian Reserves, and provided supporting information with regard to the Rainy River First Nation's land claim.

The northeast Regional Land Use Geologist and the Land Use Policy and Planning Coordinator contributed to the ongoing work directed toward settling the Temagami land claim. Comments provided regarding the proposed waterway park, a key element of the settlement proposal, and the mineral potential of the area resulted in adjustments to the boundaries of the proposed waterway park to exclude areas of provincially significant mineral potential. In addition, the Land Use Policy and Planning Coordinator worked to ensure that the Temagami First Nation and Teme-Augama Anishnabai First Nation were advised of the release of data acquired through Operation Treasure Hunt initiatives for portions of their traditional land use area.

The Land Use Policy and Planning Coordinator also monitored the status of Wahnapitei land claim, and facilitated meetings between mineral sector representatives and the Wahnapitei First Nation to discuss mineral exploration activities planned for areas adjoining the First Nation's reserve. She also worked with representatives of the Ministry

of Northern Development and Mines' Corporate Policy Secretariat to confirm the ministry's obligations in the process of settling the land claim made by the Algonquins of Golden Lake. In addition, she worked with representatives of the Ministry of Natural Resources, and the Ontario Native Affairs Secretariat to help resolve the question of whether a consortium – including the local First Nation – could extract bedrock aggregate from an area withdrawn for staking, when the withdrawal had been done so that the land could ultimately be added to the First Nation's Reserve.

New Policies for the Far North

The Ministry of Northern Development and Mines has recently adopted Policy G.A. 701-3 "Aboriginal Culturally Significant Sites", and Policy L.P. 201-1 "Licence of Occupation: Community Mineral Resource Zones" to accommodate the concerns of First Nations in the Far North about mineral exploration and development. These policies can be viewed on the Ministry of Northern Development and Mines' Mining Lands website at:

http://www.mndm.gov.on.ca/mndm/mines/lands/policies/default_e.asp

Policy G.A. 701-3 is part of a pilot project to support the protection of aboriginal culturally significant sites. In accordance with this policy, the Ministry of Northern Development and Mines will consider withdrawing from prospecting, staking, sale or lease aboriginal culturally significant sites in the Far North of Ontario. In general, the sites will not be larger than 200 by 200 m.

For the purposes of the policy, "aboriginal culturally significant sites" are geographically defined areas supporting current or past human use such as a community meeting area (e.g., Pow Wow site), spiritual site, place of worship or cemetery or burial site. "Far North" is defined as "the area north of the northern limit of current commercial timber operation in the Province of Ontario." This definition is taken from the definition of "Area of Undertaking" from the Ministry of Natural Resources' Class Environmental Assessment for Timber Management.

Requests to designate a site as culturally significant can be made by a First Nation located in the Far North. The request must be accompanied by a Band Council Resolution. The resolution must specifically state why the site is an aboriginal culturally significant site. For example, it must specify if it is a burial or religious site, etc. The Ministry will advise the First Nation of the possible risks to confidentiality concerning the reasons for withdrawal under the *Freedom of Information and Protection of Privacy Act*. The Ministry of Northern Development and Mines will review the background information provided by the Band to see if it meets the following criteria.

- Does the First Nation meet the definition of Band under the Indian Act?
- Does the site meet the definition of an aboriginal culturally significant site?
- Is the site larger than 200 by 200 m? If it is, what is the reason?
- Is there existing land tenure on that site?
- What is the mineral potential of the site?

If the Ministry is not satisfied that the request is justified, it can refuse to withdraw the site from prospecting, staking, sale or lease.

Policy L.P. 201-1 reflects the government's commitment to helping people of the Far North of Ontario develop their economies. As part of this commitment, the Minister of Northern Development and Mines created a pilot project to establish economic development zones to help First Nations of the Far North explore for minerals in areas adjoining their Reserves. The economic development zone created under the *Mining Act* would be limited to 1600 m (4 claim units) wide around the perimeter of the Reserve. First Nations from the Far North may apply to the Assistant Deputy Minister, Mines and Minerals Division, Ministry of Northern Development and Mines, for a licence of occupation for such areas.

Mineral Exploration on Traditional Lands

First Nation communities are aware that mineral exploration is taking place on their traditional lands, as exploration for diamonds and other commodities extends into the northern parts of the province. They are concerned that exploration activities will impact upon their treaty and constitutional rights, and are trying to balance outside interests with personal and community interests, community and economic development, and environmental protection on their traditional lands. Many First Nation communities propose to achieve this through education and training; communications; building relationships and trust with mining industry representatives; revenue sharing; joint management; and employment opportunities within a framework based on traditional values and culture.

At the same time, the mineral sector wants clarity and certainty concerning its rights to explore for, and develop, new mineral discoveries within these lands.

Although the only statutory requirement in the *Mining Act* for mineral sector clients to demonstrate fair and good-faith consultation with affected First Nation communities is at the advanced stage of exploration, the Ministry of Northern Development and Mines recommends initial notification of First Nation communities as soon as possible after mining claims are staked. The Ministry's Mineral Development and Lands Branch has prepared a list of consultants who can act as a facilitator or negotiator for companies that would like to have this service during their consultations with First Nations.

Such notification will establish a good basis for discussions if and when the exploration programs are successful. In support of this, the land use group provided copies of a checklist at events such as the regional Mines and Minerals symposia and the Prospectors and Developers Association of Canada annual convention to assist mineral companies active near Aboriginal communities with their consultation activities. The communications that mineral sector clients and First Nation communities share will help alleviate issues by ensuring that information is shared about the concerns of both parties.

Should mineral-related activities impact on treaty or aboriginal rights, appropriate compensation must be provided, usually as negotiated through an impact–benefit agreement.

The northwest and northeast Regional Land Use Geologists provided First Nations-related information to assist mineral sector clients engaged in mineral exploration activities and the preparation of NI 43-101 Qualifying Reports. In some cases, this included suggestions for conflict resolution between affected parties relating to exploration on Aboriginal traditional lands.

The northwest Regional Land Use Geologist also worked to help individual First Nations understand mineral exploration and development. He provided information regarding past exploration activity and the potential for future mineral exploration and development in response to a request from 1 community, and clarified the implications of the Provincial Policy Statement for another. The acting northwest Regional Land Use Geologist also assisted a representative from the Ministry of Northern Development and Mines' Mines Group on a community visit to explain the meaning of a technical report describing exploration work done on lands in their traditional area.

CONSULTATION PROTOCOL DEVELOPMENT

There has been considerable discussion about what constitutes "consultation" with regard to mineral exploration on traditional lands. In an effort to assist the mineral sector, the Ministry of Northern Development and Mines has prepared a "First Nations Best Practices Guide". The northwest Regional Land Use Geologist assisted with the preparation of this document during 2004.

The northwest Regional Land Use Geologist also facilitated several meetings between officials of the Nishnawbe Aski Nation treaty organisation, the Ontario Prospectors Association and the Ontario Mining Association. The original mandate of the assembled group was an "educational initiative" with a stated goal of preparing translated literature describing the mineral sector and distributing it to First Nation communities. The mandate was amended in late 2003. At several meetings during 2004, the group focused on developing templates for facilitating and improving engagement and consultation between First Nations and the mineral sector. It was agreed that under-

taking to negotiate an impact–benefits agreement in good faith, in the event of technical success during exploration, is not an unacceptable encumbrance on a property at the grassroots level.

Educational Initiatives

In addition to using the policies outlined above to stimulate interest in mineral exploration and development on the part of First Nation communities, the Ministry of Northern Development and Mines offers prospecting courses to interested First Nation communities. Mr. Peter Moses, First Nation Minerals Information Officer with the Resident Geologist Program travels to communities to provide prospector training. The Land Use Policy and Planning Coordinator assisted him with a course held in Sudbury in 2004 for members of the Wahnapitei and Whitefish Lake First Nations.

The Land Use Policy and Planning Coordinator also assisted other workers from the Mines and Minerals Division with development of a seven-part video sequence that is being produced in English, French, Ojibway, Cree, and Oji-Cree to illustrate the mining sequence to the public, and in particular, members of remote First Nation communities.

CONFERENCES AND WORKSHOPS

During 2004, the Regional Land Use Geologists and Land Use Policy and Planning Coordinator contributed to, and took part in, a number of industry-related conferences and workshops. Events such as these offer opportunities for interactions with clients to discuss points of interest and concern.

In March, the members of the land use group contributed to the development of the Resident Geologist Program display at the Prospectors and Developers Association of Canada annual convention, and attended the event to discuss matters of interest with current and potential future clients.

The northwest Regional Land Use Geologist assisted with the organization of the annual Northwest Ontario Mines and Minerals Symposium in Thunder Bay, and gave a presentation on land-use planning activities in the area. In addition, he prepared material for a booth display. The Land Use Policy and Planning Coordinator also assisted with the organization of the Northeast Ontario Mines and Minerals Symposium in Sudbury, and was interviewed at the event by CBC Radio, Northern Ontario Business News and MCTV reporters who wanted updates on mineral exploration and development activities in northeastern Ontario. She also worked with the northeast and southern Regional Land Use Geologists to prepare and host a poster display depicting their recent activities.

The northwest Regional Land Use Geologist attended the annual Institute of Lake Superior Geology conference in Duluth, Minnesota, in early summer, and the southern Regional Land Use Geologist attended the Geological Association of Canada–Mineralogical Association of Canada annual conference held at Brock University. Attendance at such events helps the members of the land use group, who must be members of the Association of Professional Geoscientists of Ontario, to learn about new research and concepts in geoscience in order to maintain their professional standing.

Late in the year, the acting northwest Regional Land Use Geologist attended the annual Manitoba Mining and Minerals convention, and all members of the land use group attended the 2004 Ontario Prospectors Association's Ontario Exploration and Geoscience Symposium in Toronto where they hosted a poster display, and the Land Use Policy and Planning Coordinator gave a presentation regarding the activities of the group.

OTHER

The Land Use Policy and Planning Coordinator and Regional Land Use Geologists completed a wide range of other work in 2004 that does not fit into specific categories such as the ones noted above. Such work includes contributing to or preparing internal documents such as briefing notes and resource materials for senior management on issues being addressed by representatives of the land use group and others, reviewing and commenting on proposed legislation and regulations, and dealing with site-specific issues.

For example, the Regional Land Use Geologists facilitated a settlement between the Ministry of Transportation, which sought a withdrawal order so it could extract bedrock aggregate on a property where there was already a

mining claim in good standing, and the claimholder. They brokered a meeting between a junior mining company and a remote tourism operator who was concerned that access into tourism-sensitive areas and noise from heavy equipment and diamond drilling activities would affect his clients' experience and negatively impact his business. They commented on Ministry of Transportation highway resurfacing projects, and raised concerns about the possible closure of nonpermitted highway entrances leading to mining claims or high mineral potential lands. In addition, they consulted with the Ministry of Natural Resources concerning proposed sales of Crown land for cottage lot developments in areas of high mineral potential.

The Land Use Policy and Planning Coordinator and Regional Land Use Geologists also reviewed and commented on the draft Terms of Reference for the Sault Ste. Marie Waste Management Planning Study, proposed changes to the *Cultural Heritage Act*, and the proposed Bill 97, *First Nations Resource Revenue Sharing Act*; and prepared the Regional Land Use Geologist 2003 Report of Activities.

The Land Use Policy and Planning Coordinator also completed a range of management-related duties such as reviewing and commenting on draft reports and presentations; preparing budget reports; and working with the Senior Manager and the northeast and northwest Regional Managers of the Resident Geologist Program on various program objectives during 2004. She also prepared a proposal to obtain an intern under the government's Ontario Internship Program, hired and supervised a Summer Experience Student during the student's 14-week work placement, led the process to hire a replacement for the northwest Regional Land Use Geologist, and provided overall supervision for the land use group.

Metric Conversion Table

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
		LENGTH			
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
		AREA			
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
		VOLUME			
1 cm^3	0.061 023	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.307 951	cubic yards	1 cubic yard	0.764 554 86	m^3
		CAPACITY			
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
		MASS			
1 g	0.035 273 962	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 747	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 622 6	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311 3	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 90**	t
		CONCENTRATION			
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	31.103 477	grams per ton (short)
1 gram per ton (short)	0.032 151	ounces (troy) per ton (short)
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in boldtype are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.

ISSN 0838-3677
ISBN 0-7794-7578-X